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Original Articles.

THE SURGICAL TREATMENT OF GOITER.*

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The statistics of the continental surgeons in reference to goiter have greatly added to the wholesome respect we have held as to their surgical skill. There the various operative methods of affording relief have been advanced to a high state of perfection. Especially is this true in localities in which goiter is endemic, where many surgeons have done hundreds, a few over a thousand, and the great surgeon, Kocher, is well along now in his third thousand of operations for goiter. Their mortality is low, and becomes less with increasing experience. In this country, where the disease is comparatively rare, the greater proportion of operations have been from necessity, and too often were delayed until a fatal result was a not infrequent occurrence. Few operators have had a large experience, and the mortality has been somewhat higher, taken as a whole, than that of continental surgeons; but possibly this difference is not so great for the cases of the same average severity when operated on.

There are a few points in the development, location, structure and function of the thyroid gland which are so directly associated with the disease and symptoms produced that a brief review of the anatomy of the organ will be of advantage. The thyroid gland consists of three parts—two lateral lobes and an isthmus. Each lateral lobe is about two inches long and pointed at the upper end. The isthmus unites their lower inner portions across the trachea, covering from the first to the fourth tracheal rings. The whole gland weighs from one to one and one-half ounces. In the development of the thyroid gland, the inversion takes place from the pharynx, the superior inversion being at the back of the tongue, and the remains of the nearly closed duct is known as the foramen cecum, while the remainder of the duct usually becomes atrophied to a cord extending through the tongue toward the hyoid bone. In 43 per cent. of cases a so-called middle or pyramidal lobe is present, extending from the upper border of the isthmus toward the hyoid bone. It is in these lines of inversion that the accessory thyroids are more often found, a condition which has been thoroughly described by Dr. Bernays. The gland consists of a number of alveoli of small size and various shapes. It is covered by a delicate connective tissue capsule, in and beneath which, on the surface of the gland, is the venous plexus. Penetrating the gland in all directions from the capsule are delicate connective tissue layers which form and support the alveoli, and in which are located the lymphatic vessels of the gland. The superior thyroid artery from the external carotid supplies the upper horn, entering the capsule at its apex and anastomosing freely with the vessels of the opposite side and the inferior thyroid artery below. The latter vessel arises from the thyroid axis, and enters the gland on its inner inferior surface next the trachea at a point called the hilus. At this point the vessel and gland are in close relation to the recurrent laryngeal nerve, and it is in the ligation of this artery next to the gland that this nerve is so frequently injured. There is occasionally another artery found called the thyroidima; arising from the aorta or innominate artery, it ascends on the trachea and enters the isthmus. The veins are the superior and lateral, which enter the internal jugular, and the inferior, which is usually quite large, arising from the venous plexus of the capsule, and from either side they usually unite to enter the left innominate vein.

In disease of the gland, the number of veins may be somewhat increased, but the location is nearly constant. The capsule is extremely thin, but behind it divides into two layers, one inclosing the gland, the other passing behind the pharynx and esophagus. A firm band of connective tissue is also attached on each side of the cricoid cartilage, and becomes blended with the capsule to act as a sling support. This peculiar formation of the capsule explains the dyspnea, from lateral pressure of the trachea, often complained of in enlargement, and also why even large tumors are firmly held to the trachea. In certain types of goiter this capsule becomes greatly thickened. Dysphagia may occasionally be present and at times dysphonia. The nerves are derived from the middle and inferior cervical ganglion of the sympathetic as well as the inferior and the external laryngeal nerves. The gland has no duct, but is well supplied with lymphatics, which Baber has shown are filled with the same semiviscid colloid secretion found in the alveoli of the gland, and it is probable that they act as ducts in carrying the secretion to the circulation by way of the tracheal and cervical glands. This theory of the lymphatic system acting as the carrier of secretion from the ductless glands to the circulation, aids in explaining the etiology of various tumors and retention cysts from their inactivity, as well as thyroidism from oversecretion and absorption. These lymph glands, as well as those of the mediastinum, are early involved in malignant disease of this organ, and contribute largely in rendering operations for the relief of such diseases only palliative or worse.

* Read at the Thirteenth Annual Meeting of the Western Surgical and Gynecological Association, held at Denver, Dec. 28-29, 1903.

The function of the thyroid is a question still under discussion. We know that children born without a thyroid and those who early lose them by operation or atrophy develop a condition known as cretinism; that those in adult life who in any way lose the function of the gland develop myxedema. Tetany may also develop from arrested function—well-known conditions which it is unnecessary to describe at this time. We know that an excess of activity of the thyroid function develops a condition known as exophthalmic goiter, or Graves' diseases, or Basedow's disease. The symptoms of these are characterized by rapid pulse, goiter, protrusion of the eyeballs, retraction of the upper lid, muscle tremor and nervous symptoms. The main symptom is the tachycardia and muscle tremor, other symptoms and the prominence of any depending upon the patient and the stage of the disease. The various changes in the thyroid, aside from malignant, tubercular, syphilitic or hydatid diseases, are such as might be expected from its structure, namely, atrophy, hypertrophy, cysts, adenomas, fibroid or calcareous degeneration and parenchymatous enlargements. The more common form is the latter enlargement, which is the type of uniform tumor seen in young people. It appears at about the age of sexual activity, and is characterized by an increase in the size and contents of the alveoli. In these cases there is also an increase in the solid elements of the gland. This type of goiter frequently, and we may say usually, responds to medical treatment. In many instances the colloid material is so abundant and the alveoli so large in the long-standing parenchymatous goiters that they are called colloid cystic goiters, and it often occurs that several of the various types may be represented in one tumor.

The conditions which have rendered operation imperative have usually been dyspnea, from compression of the trachea or its displacement, and from retrosternal enlargements. Dysphonia and dysphagia have been important symptoms at times, and in many instances the weight and general nuisance of a large tumor as well as cosmetic reasons.

Acute infections often demand surgical intervention. More recently the symptoms of Graves' disease have placed exophthalmic goiter in this domain of surgery; whether properly or not is a matter still under discussion.

Riverdin, in an analysis of 3,408 cases, placed the mortality from total extirpation at 19 per cent.; from partial extirpation, at 3.5 per cent.; from intraglandular enucleation at 0.78 per cent.; from resection, at 6.6 per cent. Such statistics are but relative, however, as it is probable that the total extirpations were demanded for serious conditions and the intraglandular enucleations were presumably for the encapsulated adenomas. The deaths, when immediate, are from hemorrhage, air embolism, myocarditis, suffocation or the anesthetic. Later deaths are usually from pneumonia, from sepsis, tetany or myxedema.

Of the various methods of attacking thyroid enlargements, Mikulicz has developed the resection of a part of one or both lobes after ligating or compressing the arteries. Ostermayer crushes off a part of the gland and applies mass ligatures. Socin has developed the intraglandular enucleation. Kocher advanced the method of eventeration, or incision of cysts and shelling out their contents, and also the popularized common method of lateral extirpation in its capsule, dividing the isthmus and leaving a portion of the capsule at the side of the trachea to protect the recurrent laryngeal nerve, which he injured more or less in 7 per cent. of his first thousand cases. Paucet and Billroth made massive enucleation within the capsule.

Cysts have been treated by puncture, injection and drainage, but are now usually enucleated. Injections of various solutions into goiters are generally considered nearly as dangerous as radical operative measures, and curiously enough, are more employed by the internist than by the surgeon, who always doubts the true position of the point of an instrument as soon as it is out of sight.

The displacement of a goiter by open incision, allowing it to granulate in the open wound, or exothyropexy, is seldom practiced. Incision of the isthmus for tracheal compression is sometimes employed as a temporary measure, but as a rule the relief is slow to manifest itself and the symptoms early recur. Ligation of three or four of the thyroid arteries is nearly as serious an operation as the removal of part of the gland. These cases seem to be exposed to all the risks, both primary and secondary, as if the gland were attacked directly. The removal of a part of the cervical sympathetic ganglion for the relief of exophthalmic goiter, as advocated by Edwards and popularized by Janesco, has had a fair degree of success. It is barely possible that the destruction of the lymphatic ducts efferent from the thyroid may account for some of the improvement noted. This theory will also explain the favorable reports following the exposure of exophthalmic goiter to the *x*-ray.

During the past fifteen years we have had a large number of parenchymatous goiters, which have been successfully treated, usually by some combined internal and external method. In the same period one hundred and ten patients have been subjected to operation for the relief of some type of thyroid tumor. Of these, thirty-four were for exophthalmic goiter, with six deaths. Two were for carcinoma of the thyroid, with one death on the third day from sudden collapsing of the trachea. The other, whose trachea was involved, required the permanent use of a long canula tracheal tube until death occurred fourteen months later. One case was a large lingual thyroid; two cases presented enlargements of the pyramidal lobe only, and these tumors were apparently separate from the remainder of the gland. The other cases, numbering seventy-one, with one death from pneumonia on the eighth day, presented the various types of adenoma and colloid cystic goiters. In two cases there were large areas of calcareous degeneration. One case was a large cyst with sixteen ounces of fluid, and apparently involved the entire gland. Two colloid cystic goiters were very large, one measuring twenty-two, the other nineteen inches across the tumor from one side of the neck to the other, and resting upon the sternum. In three cases the entire gland was apparently removed, but as this operation was by the enucleation method we considered it probable that there was some active gland tissue within the capsule or an accessory gland present, as there were no symptoms developed which could be attributed to the loss of the gland.

We prefer the Kocher collar incision as giving the most exposure and causing the least scar. This incision crosses the gland in the line of the creases of the neck and extends on one or possibly both sides as far as the posterior border of the sternomastoid muscle. In spe-

cial cases more space is gained by splitting the lower flap in the center down to the upper border of the sternum. The sterno-hyoid and thyroid muscles can at times be retracted sufficiently to deliver the tumor or portion of the gland to be removed; but if they add any difficulties to the operation we have no hesitation in cutting a part or all of them and reuniting them by suture during the later steps of the operation. There is often some difficulty in determining which is the true capsule, and the incision can be deepened into the tumor until gland tissue or tumor tissue is exposed; the hemorrhage is inconsiderable if the larger vessels are avoided. Inspection of the tumor after its free exposure will indicate the best method of procedure in the operative technic of its removal. If the capsule is thick and nearly the whole gland has disappeared into one rounded mass, we prefer the enucleation method of Socin, as in case of cysts they can be evacuated and the cyst wall removed, and if adenomas or large colloid cysts it is possible that enough gland material will be left to functionate should it be necessary to remove the whole mass. If, as is more often the case, the tumor on exposure retains the general normal contour of the gland, we extirpate one lobe, usually the right, after the method of Kocher. In case of retrosternal enlargements it is delivered with this lobe if possible. The veins leaving the true capsule laterally are divided and the upper horn dislocated sufficiently to double ligate the superior thyroid artery and vein. The tumor is further dislocated and freed from below with dry gauze dissection until the inferior thyroid artery and veins can be ligated. The isthmus is now crushed with large forceps and ligated or closed by sutures after severing the tumor. If there is any difficulty in raising the lobe from the trachea and region of the recurrent laryngeal nerve, the capsule is incised under the lateral border and allowed to remain, the gland being cleansed from its surface. The wound is now closed by a subcuticular suture, and usually free drainage is employed by separate incision or by the vertical median incision above the sternum.

Exophthalmic goiters are extirpated in the same manner, using greater care in avoiding undue force or compression of the gland in its removal. Our usual rule is to give a hypodermic injection of one-sixth to one-fourth grain of morphia about twenty minutes before operation, as it quiets the general nervousness and aids anesthesia. Unless there is extreme dyspnea or extremely marked exophthalmic symptoms we prefer the drop method of ether anesthesia. In such cases we employ the cutaneous injection of cocain. This method is also used if we lack confidence in the anesthetist. The after-results have been perfect in colloid and adenomatous goiters, with the exception of one case of permanent hoarseness, and a few with this feature lasting but a short time. In operating for malignant disease we found the usual rule to hold good, that the operations were delayed, difficult, palliation short and mortality high.

The exophthalmic cases which recovered from the operation were all benefited within a period of three months,; about 50 per cent. became free from exophthalmic symptoms within from three to six months following the operation. In 25 per cent. the improvement was continuous during a year. In 25 per cent. the improvement was partial, the exophthalmus being slow to disappear. None were made worse who lived, and those in whom death occurred were the most severe types of Graves' disease, especially presenting tachycardia of from 130 to 150. Following the operations on the thyroid gland, a condition of acute thyroidism is probable during the first twenty-four to forty-eight hours. To a great extent it depends on the amount of traumatism in the operation. This condition is more noticeable in the exophthalmic cases. It is usually accompanied with from one to four degrees of temperature.

MORE LOCAL AND LESS GENERAL ANESTHESIA IN GYNECOLOGIC OPERATIONS.

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General anesthesia is of great value in diagnosing many intrapelvic and intra-abdominal conditions, especially in girls, nervous women and in those with tense or thick abdominal walls. Ether and chloroform are the drugs most frequently employed for this purpose. During recent years I have to a great extent discarded these, using nitrous oxid gas in preference, except in cases in which it is contraindicated. The great advantages of this anesthetic are its rapidity of action, safety and absence of after-sickness. The gas is administered through a Packard inhaler, air being inhaled with it.

In carrying out operative procedures I use nitrous oxid and ether, except where there is some contraindication, in the majority of cases. I have found the Packard inhaler very suitable for the administration. A mixture of nitrous oxid gas and air is first given, and as unconsciousness is developed, ether vapor is gradually forced into the inhaler by means of a rubber bulb attached to the bottle of ether. The nitrous oxid reservoir is then disconnected and a mixture of air and ether continued.

When chloroform is indicated the same inhaler is employed, air being allowed to enter more freely. When the mask of the inhaler does not fit a patient's face closely, anesthesia may not readily be induced, because an excessive amount of air is inhaled. Under these circumstances it is advisable to administer ether by means of an open-top pasteboard cone containing cotton; chloroform may be given by means of an Esmarch inhaler, the drug being carefully dropped on it from a small bottle.

Every operator should carefully supervise the administration of these anesthetics, allowing no more than is necessary to be used. Unless this be done patients will often be subjected to unnecessarily prolonged or reckless anesthesia. In cases in which surgical procedures are to be carried out in the lithotomy posture previous to abdominal section, it is frequently possible to carry out the former, either without a general anesthetic or by local anesthesia.

This is particularly necessary when the plastic operations may be extensive or there is expected to be prolonged abdominal work. Frequently the latter is more complicated than was suspected, and the patient may require to be subjected to the added risk of prolonged narcosis.

In recent years I have considerably extended the sphere of employment of local anesthesia, even in major operative procedures, in cases in which prolonged general anesthesia is not considered advisable, e. g., old age, kidney, pulmonary and cardiac diseases, marked anemia, chronic wasting diseases and sepsis. I recommend the Schleich infiltration method, solution No. 2 being employed.

In making the solution I am accustomed to prepare it twenty minutes before it is used, adding a little formalin to it to lessen the risk of infection.

Various plastic operations on the cervix, vagina and vulva may thus be carried out. The diseased uterus and adnexa may be extirpated. In performing this operation after infiltration of the fornix vaginæ and opening the peritoneal pouches, no further application of the anesthetic may be required in most cases; occasionally, however, when the patient complains it is advisable to infiltrate the broad ligaments before ligating them, since the latter procedure usually causes distress.

In opening the abdomen, the skin may be infiltrated for a distance of four or five inches in the line of the incision to be made. Thereafter, in the majority of cases, I rarely inject any more of the anesthetic solution. Formerly it was my practice to infiltrate the successive layers divided, but I now prefer to make a rapid division of the abdominal wall.

Various operations may be carried out after the abdomen is opened, e. g., removal of diseased tubes and ovaries, shortening of the round ligaments, myomectomy, supravaginal amputation of the uterus, appendectomy, resection of the intestine, etc.

It is important that the patient should be encouraged and cheered by the operator throughout the operation. If a few drops of chloroform be sprinkled from time to time on a mask held over the patient's face a strong suggestive influence is often exerted, the patient believing that she is being deeply anesthetized. Sometimes a patient may become so nervous and excited that her struggles make it impossible to continue the operation until general anesthesia is induced. But even if such a course is pursued, the advantage has been obtained of reducing to a minimum the amount of chloroform or ether which is necessary.

In the last five years I have only once been compelled to have recourse to a general anesthetic, in the case of a very nervous Italian woman. The largest operation I have performed without general anesthesia was an abdominal hysterectomy for the removal of a cystic fibromyoma of the uterus weighing 87 pounds. It was performed in the Presbyterian Hospital, Chicago, Dec. 16, 1902. The abdomen was opened after Schleich infiltration of the skin. After working for an hour, the patient became somewhat restless, and she was allowed to inhale a few drops of chloroform. During the remaining hour and a half this procedure was repeated from time to time, six drams of the drug being used in this way. The patient was conscious throughout the whole operation, and frequently engaged in conversation; no reflexes were abolished.

Recently I have performed vaginal cesarean section in a primipara suffering from severe nephritis, without any general anesthetic. The operation was difficult on account of the undilated condition of the vagina and a hypertrophic elongation of the cervix measuring nearly four inches. The procedure lasted about an hour, and was followed by complete recovery.

In conditions of extreme anemia or sepsis, I am convinced that the abandonment of general anesthesia will greatly diminish the risk to patients. I have thus opened the abdomen in ruptured ectopic gestation where the blood examination showed less than 24 per cent. of hemoglobin. In severe sepsis the tendency to degeneration in cardiac muscle, renal epithelium and other structures should always be remembered as a warning against the use of a general anesthetic.

With regard to the sensibility of the various tissues exposed and handled the following observations have been made:

On dividing the infiltrated portion of the skin no pain is felt if the infiltration has been well carried out. Division of the other tissues of the abdominal wall always causes pain, the parietal peritoneum being usually most sensitive. Suturing or dragging of a portion of the latter is always painful. The separation of adhesions between any structure and the parietes causes pain, except when the adhesions are very slight, whereas the separation of adhesions between viscera or between new growths and viscera very rarely causes distress. The omentum may be ligated, divided or cauterized without pain; when it is pulled downward pain is caused. When the intestines are handled, whether inflamed or normal, no pain is usually produced unless the mesentery be pulled forcibly.

Removal of the vermiform appendix does not usually cause distress. When its mesentery is stretched or when adhesions between it and the parietes are separated the patient usually complains.

Compression of the broad ligaments with forceps or ligature usually causes the patient to complain, as does perforation or division of them. Cauterization, scraping or stitching of the peritoneal surface of the uterus is rarely noticed by the patient, except at the attachment of the round ligaments; she usually complains when the organ is forcibly pulled upward or laterally putting the ligaments on the stretch. Ligation, division or stretching of the round ligaments always causes distress.

The separation of the tubes and ovaries adherent to the wall of the pelvis is always painful, though slight manipulation of these structures when free is apparently painless. When the ovary is firmly squeezed, resected or sutured, some complaint is usually made. Separation of the bladder from the uterus causes little or no distress. Division of the vaginal wall around the cervix in the performance of a hysterectomy always causes some pain. Sponging of the visceral peritoneum with gauze usually causes no distress, whereas the same procedure applied to the parietes causes pain which varies in intensity according to the force applied. The pain felt on the removal of a gauze drain from the abdomen is probably either due to friction against the parietal peritoneum or to traction on a mesentery or the omentum.

Slow flushing of the peritoneal cavity with hot (105 to 108 F.) normal saline solution usually causes slight or no distress. If, however, the abdomen be unduly distended the patient may complain.

My observations made during the last few years are almost entirely in harmony with those recently published by Lennander of Upsala, in an important contribution to our knowledge of the sensibility of the entire abdominal cavity, his chief conclusion being that all pains felt within the abdomen during operations or in disease are to be referred to parts which are innervated by the intercostal lumbar and sacral nerves, i. e., to the diaphragm and abdominal walls, as well as to such organs of which we know with certainty that they are innervated by the nerves in question or are in near relation to them.

100 State Street.

To remove foreign bodies from the ear, dip the end of a camel's hair brush in glue and leave it in position against the body. When dry, after a few hours, pulling on the brush will remove the whole thing.—*Canadian Practitioner.*

THE ULTIMATE RESULTS OF THE BLOODLESS REPLACEMENTS OF CONGENITALLY DISLOCATED HIPS.

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(Concluded from Page 1016.)

CASES IN THE THIRD GROUP.

The third group consists of the Lorenz cases, and is divided into three subgroups: (*a*), (*b*) and (*c*). He examined in my office and refused to operate on 17 patients, 27 hips, from 7 years (with 2½ inches shortening) to 29 years of age. He recommended operation in 3 other cases that, insofar as I can learn, have not been operated on. He advised operation in a unilateral case of 9 years, the operation to follow preliminary stretching by weight and pulley in bed for some weeks. This case I have since operated on, breaking the neck of the femur (Case 100, Group 4). He refused to operate on a unilateral case, a girl of 8 years, on the ground that replacement was impossible. This case was at once operated on by Dr. John L. Porter and myself, and appears as Case 98, Group 4.

Of these 32 hips, 15 were right and 17 were left. Of the 22 patients, 19 were girls and 3 were boys. One of the cases in which operation was recommended was 2 years old, and all were within the age limit, excepting Case 100 above referred to.

In detail the cases were as follows:

GROUP 3 A.

No.	Sex.	Age.	Hip.	Shortening.
51.	F.	10 yrs.	R.	
52.	M.	8 yrs.	B.	2 in.
53.	F.	11 yrs.	L.	
*54.	F.	8 yrs.	B.	1½ in.
55.	F.	20 yrs.	L.	2¾ in.
56.	M.	10 yrs.	R.	1¾ in.
57.	F.	8 yrs.	B.	
58.	F.	9 yrs.	L.	
59.	F.	11 yrs.	B.	
60.	F.	29 yrs.	B.	3½ in.
61.	F.	13 yrs.	L.	2¼ in.
62.	F.	16 yrs.	B.	
63.	F.	13 yrs.	B.	
64.	F.	9 yrs.	L.	
65.	F.	12 yrs.	R.	2½ in.
66.	F.	7 yrs.	B.	2½ in.
†67.	F.	12 yrs.	B.	4½ in.
68.	F.	2 yrs.	B.	
69.	F.	8 yrs.	L.	
70.	M.	9 yrs.	R.	2 in.
71.	F.	8 yrs.	L.	
72.	F.	9 yrs.	R.	

*Same as Case 23. †Same as Case 39.

Two of these cases have since been operated on and will be referred to later on; none of the others have answered letters of inquiry as to their condition.

Group 3 (*b*) comprises the cases seen by me that Lorenz operated on. There were 22 patients, with 26 dislocated hips; 13 were right and 13 were left. Three of the patients were boys and 19 were girls. Their ages ran from 2 to 12 years. The shortening was from three-fourths of an inch to 2 inches. The results in these 26 hips were 12 anterior transpositions, 4 supracotyloid displacements, 7 failures, 1 apparent replacement and 2 perfect replacements. It is more than likely that some of the anterior transpositions will ultimately become supracotyloid. The accidents were: One torn perineum, one paralysis, one fracture of the neck of the femur, and one fracture of the shaft of the femur.

GROUP 3, B.

CASE 73.—Female, age 6 years; right hip; shortening 1 inch. Same as Case 33. Operated on Oct. 12, 1902. Result said by Lorenz to be anterior transposition or "apposition."

CASE 74.—Male, age 3 years; left hip; shortening ¾ of an inch. Apparent replacement immediately after operation. Parents told by Lorenz on removal of splint that replacement was perfect. Feb. 1, 1904, Dr. J. L. Porter found ½ an inch shortening and supracotyloid dislocation. See Fig. 6.

CASE 75.—Female, age 11 years; left hip; shortening 2 inches. Same as Case 22. Failure. Improved position.

CASE 76.—Female, age 8 years; right hip; shortening, 2 inches. Apparent replacement. Found anterior on removal of splint. Perineum torn from vagina into rectum at time of operation. Repaired by my house surgeon, and healed kindly.

CASE 77.—Female, age 7 years; right hip; shortening, 1¾ inches. Professor Lorenz tried to effect replacement and gave

Fig. 6.—Case 74. Operated on by Lorenz. Apparent replacement. Became supracotyloid, apparently in much the same position as before operation. Skiagram Feb. 1, 1904.

up, saying: "It is not possible." At the suggestion of Dr. Ashley, who was assisting, I made the attempt and very soon effected a replacement. Lorenz then took the leg and made further stretching. There was extensive ecchymosis and a large hematoma following the operation. On removal of the splint the head was in anterior transposition, where it has remained. The right leg is one inch short. The femoral head shows prominently in the groin 1¾ inches below and ½ an inch to the inner side of the anterior superior spine of the ilium. The foot

Fig. 7.—Case 77, Group 3 b., or Case 99, Group 4. Operation attempted by Lorenz, who gave it up as "impossible." Replacement made by Ridlon; limb afterward manipulated by Lorenz. Result: Anterior transposition. Head can be seen and felt in the groin. There is one inch shortening. Outward rotation deformity 45 degrees standing, 90 degrees lying. The skiagram shows the head apparently in an enlarged acetabulum, but it really lies below the anterior superior spine of the ilium. Skiagram made Feb. 19, 1904.

is rotated out 45 degrees in standing and 90 degrees when lying. There is a hollow about 2 inches across and about ¾ of an inch deep at the point where the adductors were torn from their upper attachment. The buttock is flattened. The abducted position in which the leg is held compensates for the real shortening, and the child walks very well. (Fig. 7.)

CASE 78.—Female, age 2 years; left hip; shortening. I examined the case six weeks after the operation. There was apparent replacement. The case can not be traced. She is believed to have entered the hospital under an assumed name.

CASE 79.—Female, age 10 years; left hip; shortening, 2 inches. Apparent replacement. Found anterior on removal of splint. Figure 8, from a photograph made at the time, shows the other hip also dislocated; the hip operated on being in anterior transposition.

CASE 80.—Female, age 5 years; right hip; shortening 1¼ inches. Apparent replacement. Found anterior on removal of splint.

CASE 81.—Male, age 9 years; right hip; shortening 1¼ inches. Femoral head could be felt in the groin two weeks after the operation. Does not answer request for examination and *x*-ray.

CASE 82.—Female, age 8 years; left hip. Failed to replace, or transpose, after supreme efforts and prolonged traction by three powerful men. Plaster splint put on leg with abduction. Severe pain for some weeks, followed by paralysis.

CASE 83.—Female, age 6 years; left hip; shortening ¾ of an inch. Same as Case 16. Dr. Lorenz told the father that the result was an anterior transposition.

CASE 84.—Female, age 9 years; right hip. Head found prominent in the groin on removal of plaster splint and limb rotated out beyond 90 degrees. Dr. D. N. Loose reported it to

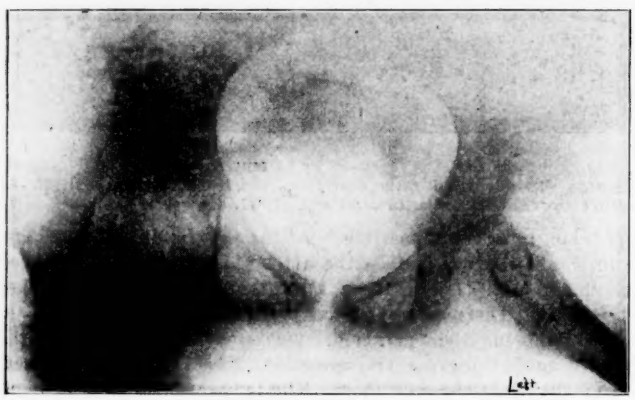

Fig. 8.—Case 79. Left hip operated on by Lorenz. Skiagram on removal of splint shows left hip in anterior transposition and right hip (not operated on) also dislocated.

me as a thyroid dislocation with 1½ inches lengthening. On examination I regarded it as an extreme transposition.

CASE 85.—Female, age 9 years; right hip. Splint removed by Lorenz at end of six months. Mother told that replacement was perfect. Now, Feb. 12, 1904, the limb is one inch short, and the head can be felt above and anterior to the acetabulum. Abduction compensates for the real shortening and the patient walks with scarcely a limp.

CASE 86.—Female, age 8 years; left hip. Operated on Oct. 20, 1902. Lorenz broke the femur below the trochanters, and failed to replace the hip.

CASE 87.—Female, age 7 years; both hips. Same as Case 48. Operation by me had been a failure. Lorenz apparently replaced the left hip, but fractured the femoral neck on the right side; the head could be felt separate from the neck under the gluteal muscles. Both legs were put up in plaster in the extremely abducted position. On removal of the splint the position was as shown in the skiagram, the left hip anterior and the head of the right showing indistinctly on the dorsum of the ilium.

CASE 88.—Female, age 4 years; left hip. On removal of the splint the head was found in extreme anterior transposition.

CASE 89.—Female, age 12 years; right hip; shortening 2 inches. Failed to replace or transpose. Splint put on in improved position.

CASE 90.—Male, age 5 years; both hips. Apparent replacement of both hips. On removal of splint the right was found anterior, and the left apparently in place.

CASE 91.—Female, age 3 years; right hip; shortening ¾ of an inch. Same as Case 18. (See Figs. 1 and 2.) Apparent replacement. Found anterior on removal of splint and has now become supracotyloid, with ½ an inch shortening.

CASE 92.—Female, age 4 years; both hips. Apparent replacement of both hips. When I examined the case ten months after the operation I found the first splint had been removed and another put on with extreme abduction reduced about one-half. Both femoral heads could be felt under the splint distinctly anterior.

CASE 93.—Female, age 5 years; both hips. Left hip apparently replaced; but Lorenz failed to replace the right, and this hip was not put in a splint. On removal of the splint from the left hip anterior transposition was found, which now has become supracotyloid. There is about ¾ of an inch shortening.

CASE 94.—Female, age 2 years; left hip. Apparent replacement. Found apparently perfect on removal of the splint. (Fig. 9.)

Beside these there was another case, E. B.. 3 years old, that was operated on at Mercy Hospital, Oct. 25, 1902, by Professor Lorenz. The case was reported in the newspapers as a case of congenital dislocation of the hip, and so the mother understood the diagnosis to be.

Fig. 9.—Case 94. Operated on by Lorenz. Skiagram on removal of splint. Perfect replacement. Has not been examined since.

It was, however, a case of hip disease, without dislocation, that was first examined by me at the Home for Destitute Crippled Children, July 11, 1902. Lorenz' plaster splint was removed Jan. 31, 1903.

The house surgeon at Mercy Hospital made the following report to me from the hospital records:

Oct. 25, 1902. Hip was stretched by working the adductors and pulling in straight line to the body. Head was brought into acetabulum. Body was next secured in his apparatus, collar about ankle, and leg was brought in over-extension, support being in small of back. Enough traction was used to keep head in acetabulum. Plaster cast was applied in this position. Cast to remain on 3 months, and according to findings another may be put on.

Group 3 (*c*) comprises the cases operated on by Lorenz, in which I have had no personal responsibility, but about which I have been able to learn the facts. Dr. T. A. Davis, Chicago, permits me to report the following case:

CASE 95.—Female, age 6 years; left hip. (Fig. 10.) Operated on by Prof. Lorenz at the College of Physicians and Surgeons Oct. 31, 1902. The plaster splint put on at the time of the operation was left on seven months, as was directed, and two other splints were put on by Dr. Davis; altogether she was in plaster about eleven months. Dr. Davis believed the ultimate result to be a complete relapse into the position previous to the operation. Feb. 22, 1904, Dr. J. L. Porter examined and

radiographed this case. (Fig. 11.) He reports: The left leg is ⅞ of an inch short; outward rotation when lying, 90 degrees; when standing, 45 degrees; head can be felt in groin just external to femoral vessels one inch below anterior superior spine; walks with a marked limp. The parents think she is improved over former condition.

Dr. J. L. Porter, Chicago, permits me to report the two following cases:

CASE 96.—Female, age 2 years; left hip. Operated on by Lorenz Oct. 16, 1902. The splint applied at the time of the

Fig. 10.—Case 95. No. 1. Before operation by Lorenz. See Figure 11.

operation was left on six months. When taken off the leg was brought down half way and replaced by another by Dr. Porter. This was worn two months. Then another was put on with the leg nearly straight. At both sittings the head was felt in the acetabulum, so far as palpation and measurements could determine. Figure 12 shows the condition before operation.

Fig. 11.—Case 95. No. 2. Skiagram Feb. 22, 1904. Compared with Figure 10 shows complete relapse. There is a supracotyloid dislocation on examination.

Feb. 20, 1904, I examined this case. The limb is ¾ of an inch short; outward rotation about 45 degrees; the head of the femur can be felt between the anterior superior spine and the upper border of the acetabulum, with the top of the head about on a level with the anterior superior spine. Walks with a marked limp, and the mother thinks the gait is growing worse.

CASE 97.—Female, age 5 years; right hip. Operated on by Lorenz Oct. 16, 1902. Dr. Porter had made two previous replacements without extensive tearing of the adductor muscles and both times it had relapsed. The splint put on at the operation was removed at the end of six months; the second, put on by Porter, was removed at the end of two months, and a third about the middle of July, 1903. The head of the femur could be felt in the groin at each sitting. The leg was brought entirely down by July. Feb. 20, 1904, I examined this case. The limb is one inch short; it is possible to passively flex the limb in the anteroposterior plane only about 20 degrees, but in the lateral plane it can be carried to a right angle; the outward rotation standing is 45 degrees, and lying 90 degrees; the head can be felt and seen in the groin below and internal to the anterior superior spine, exactly under (posterior to) the femoral vessels. Walks with a marked limp; mother does not notice any change in gait.

Of these 29 hips operated on by Lorenz, there are two perfect replacements (as shown by the skiagram, but their condition has not been observed six months after the removal of the splints); one apparent replacement (which may prove permanent); six supracotyloid displacements; thirteen anterior transpositions and seven failures.

It would not be fair to place these figures in comparison with the results of other operators. To any one witnessing Lorenz' work in this country, it was obvious

Fig. 12.—Case 96. Operated on by Lorenz Oct. 16, 1902. Skiagram by Dr. John L. Porter Oct. 13, 1902.

that he could not do his best work before a large and critical audience. The after-treatment was in most instances not in his hands, or in those of his assistant, and some allowance must be made for that. On the other hand, insofar as my observation goes, those cases that have been wholly under his personal care and the personal care of his assistant, do not show better results than the others, and the two cases that I have reported as perfect have not been seen by Lorenz since they were operated on.

Oschner[3] says of Lorenz' results: "In 212 carefully observed cases treated before Jan. 1, 1899. Lorenz reports 108 anatomically and functionally perfect results; 102 anatomically imperfect, but functionally good." Comparing these figures with all "carefully observed" results of his work in this country, I am forced to the conclusion that the difference requires some explanation that I am not able to give.

As I have already said, I believe this is the best operation for all congenitally dislocated hips, and the only operation to be considered in bilateral dislocation, but I think the results will be about what has been shown in these 29 hips, namely, about 10 per cent. perfectly stable anatomically perfect replacements; about 50 per cent. to 60 per cent. of anterior transpositions or "appositions,"

3. Annals of Surgery, August, 1902.

and supracotyloid displacements, "good results," and about 20 per cent. to 30 per cent. failures. With such results as these I think we must be satisfied.

CASES IN FOURTH GROUP.

Group 4 consists of those cases that have been under my observation and have been operated on by me since Oct. 12, 1902, and are not included in either of the other groups.

There were 43 patients, with 53 dislocated hips; 25 were right and 28 left. Three of the patients were boys and 40 were girls. Their ages ran from 17 months to 13 years for those operated on, with one 21 years old that was rejected. The shortening was from one-half inch to 3½ inches for those operated on.

The results were: Seven anterior transpositions; 4 supracotyloid displacements; 5 failures; 4 apparent replacements on removal of the splint, the condition of which can not be positively verified at this time; 6 perfect replacements; 2 (in the patient 21 years old) were rejected; 4 refused operation; 6 are waiting for operation; and 15 were apparently replaced at the operation and are still in their plaster splints.

It is probable that some of the 4 apparent replacements may become anterior transpositions or suprocotyloid displacements; and it is possible that some of the supracotyloid displacements may relapse into posterior dislocations.

The accidents were the fracture of the neck of the femur in two girls of 9 and 10 years, respectively.

GROUP 4.

CASE 98.—Female, age 8 years; left hip. Same as Case 71. Rejected by Lorenz. Operated on by Dr. J. L. Porter and myself. Apparent replacement. Found anterior on removal of splint. Again replaced and abduction reduced. Found supracotyloid on removal of splint.

CASE 99.—Female, age 7 years; right hip. Same as Case 77. (Fig. 7.) Apparent replacement. Found anterior on removal of splint.

CASE 100.—Female, age 9 years; right hip. Same as Case 72. Neck of femur fractured and head not replaced. Walks well; abduction compensating for the real shortening. Has little motion at the joint.

CASE 101.—Female, age 10 years; right hip. Fracture of neck of femur. Now abducted 45 degrees; very little motion.

CASE 102.—Female, age 3 years; left hip; shortening ½ of an inch. Perfect replacement. This child also had congenital talipes calcaneus and a congenital kyphosis. On removal of the splint there was apparently perfect replacement. At the end of six months the child began to complain of cramps in the leg; flexion at the joint was restricted and the femoral head could be felt in front. Under massage and passive motion the cramps ceased, the head disappeared and motion returned. The condition is now normal.

CASE 103.—Male, age 4 years; both hips. Apparent replacement. Femoral heads found anterior on removal of splint.

CASE 104.—Female, age 13 years; left hip. Patient had spastic paralysis and had never walked. Fragile bones were feared and the adductors and long flexors were tenotomised before replacement was attempted. Replacement was made without difficulty and remained permanent.

CASE 105.—Female, age 5 years; left hip. Perfect replacement.

CASE 106.—Female, age 3 years; left hip. Apparent replacement. Has not been seen six months after removal of splint.

CASE 107.—Female, age 3 years; right hip. Apparent replacement. Has not been seen six months after removal of splint.

CASE 108.—Female, age 2 years; left hip. Perfect replacement on removal of splint. Dr. J. C. Sexton, Rushville, Ind., reports that replacement has remained perfect.

CASE 109.—Female, age 6 years; left hip; shortening 1½ inches. Apparent replacement. Found anterior on removal of splint. The child had had in infancy a congenital talipes equinovarus and genu-recurvatum on this same side.

CASE 110.—Female, age 17 months, left hip. Apparent replacement. Found supracotyloid on removal of splint. Abduction compensates one inch shortening, and child walks with scarcely a limp.

CASE 111.—Female, age 3 years; both hips. Apparent replacement on removal of splint. Skiagram showed slight supracotyloid displacement. Still under treatment, but it is expected that the result will be supracotyloid displacement.

CASE 112.—Female, age 9 years; both hips; shortening 3 inches. Was a large, strong girl. Six weeks' preliminary traction was made. Replacement was made without difficulty but before the plaster splint was fully on it was found that there was little or no circulation below the knees and no pulse at the ankles. The plaster splint was cut off and the hips redislocated. Circulation soon returned. The parents refused to permit further treatment.

CASE 113.—Female, age 5 years; right hip; shortening 1½ inches. Apparent replacement. Found anterior on removal of splint. Again replaced and put up with abduction and flexion half reduced. Dr. Clifton Scott, Des Moines, reports perfect result ten months after the operation.

CASE 114.—Female, age 4 years; both hips. The hips were dislocated anteriorly. There also was congenital talipes equinovarus, knees flexed 45 degrees with little motion and no patellæ, clubbed hands, elbows flexed 30 degrees and having little motion, arms webbed to the body one-third of the way to the elbows and having little motion in abduction. The hips have not been operated on.

CASE 115.—Female, age 3 years; both hips. This case was precisely like the last, No. 114, except that the hands and elbows were normal.

CASE 116.—Female, age 4 years; left hip. Apparent replacement on removal of splint. Can not be traced.

CASE 117.—Female, age 10 years; right hip; shortening, 1½ inches. Still under treatment.

CASE 118.—Female, age 7 years; left hip; shortening 1¾ inches. Failed to replace. Put up abducted to improve position. Walks fairly well.

CASE 119.—Female, age 8 years; right hip. Apparent replacement. Found anterior on removal of splint.

CASE 120.—Female, age 2 years; left hip; shortening 1 inch. Perfect replacement.

CASE 121.—Female, age 2 years; left hip. Apparently in place on removal of splint. Not seen since. Mother reports child "doing well."

CASE 122.—Female, age 2 years; right hip. Refused operation.

CASE 123.—Female, age 6 years; both hips. Apparent replacement. On removal of splint the left hip was in place, and the right was anterior.

CASE 124.—Female, age 21 years; both hips. Rejected.

CASE 125.—Male, age 4 years; right hip; shortening 1⅛ inches. Apparent replacement. Still under treatment.

CASE 126.—Female, age 10 years; left hip; shortening 3½ inches. Apparent replacement. Still under treatment. These last two cases are brother and sister.

CASE 127.—Female, age 2 years; left hip; shortening 1 inch. Apparent replacement. Still under treatment.

CASE 128.—Female, age 8 years; left hip; shortening 2 inches. Apparent replacement. Still under treatment.

CASE 129.—Female, age 13 years; right hip; shortening 2½ inches. Preliminary traction. Apparent replacement. Still under treatment. A skiagram shows supracotyloid dislocation, a flattened head and a short neck. This is the oldest case I have operated on.

CASE 130.—Female, age 5 years; right hip; shortening 1⅛ inches. Apparent replacement. Still under treatment.

CASE 131.—Female, age 3 years; both hips. Apparent replacement. Still under treatment.

CASE 132.—Male, age 6 years; right hip. Apparent replacement. Still under treatment.

CASE 133.—Female, age 3 years; left hip; shortening ⅞ of an inch. Apparent replacement. Still under treatment.

CASE 134.—Female, age 2 years; both hips. Refused treatment.

CASE 135.—Female, age 6 years; right hip. Apparent replacement. Still under treatment.

CASE 136.—Female, age 18 months; left hip. Apparent replacement. Still under treatment.

CASE 137.—Female, age 11 years; right hip. Apparent replacement. Still under treatment.

CASE 138.—Female, age 9 years; both hips; shortening, left 1 inch, right 1¾ inches. Apparent replacement. Still under treatment.

CASE 139.—Female, age 3 years; right hip; shortening 1 inch. Supracotyloid dislocation. Not yet operated on.

CASE 140.—Female, age 4 years; left hip; shortening ¾ of an inch. Refused operation. Also has bilateral genu-recurvatum.

Deducting 10 duplicated cases, with 13 hips (from the total, 140 patients, with 172 hips), leaves 130 patients, with 159 dislocated hips. Of these 159 dislocated hips, 94 have been operated on. The results in several are not final, but only 10 can be asserted to be perfect anatomic replacements. About these I have no doubt. How many of the 14 that were apparently in place when the splints were removed, but have not been radiographed or examined six months later, will prove to be permanent, is, of course, a matter of opinion. Some are likely to prove permanent; some are likely to become anterior or supracotyloid, and some may relapse, but none of the dislocations originally dorsal have been demonstrated to have relapsed when the adductor muscles have been freely torn.

How many of the 33 anterior transpositions and supracotyloid displacements will relapse into the dorsal position is also a matter of opinion, but as I have already said none have been demonstrated to have done so. How many of the 15 still in plaster splints will be perfect, anterior or supracotyloid is also a matter of opinion, but I feel sure none will relapse into their former position on the dorsum of the ilium.

If, then, we are satisfied to call an anterior transposition and a supracotyloid displacement, where the shortening is fully compensated by the abduction, if we may call these "good results," and I think we may, we have 61 "good results" and 10 perfect replacements out of 94 hips operated on.

There were 17 failures to replace (7 by Lorenz and 10 by me) and 5 relapses (all mine and before Lorenz came). Lorenz operated on 2 of my relapsed hips and on 3 that I failed to replace. He failed in 2 of the latter, breaking the femoral neck in 1, and has anterior transpositions in the 3 other cases.

Lorenz' teachings have led me to assume that he expects, in some instances, to obtain perfect anatomic replacement in some cases where the femoral head is in anterior transposition, or "apposition," when the splint is removed. I doubt very much if this will be found to be possible. At any rate, it has not been demonstrated, nor do I believe that any of supracotyloid displacements will, by any bloodless procedure, be made perfect replacements. When anterior transposition results it appears to be due to too freely tearing the tissues in front of the joint; when these are healed they are not sufficiently strong to retain the head in the acetabulum if it is again replaced. When supracotyloid displacement results it appears to be due, as shown by the skiagrams, to a deficient upper lip to the acetabulum, or what Lorenz calls a "saucer-shaped" acetabulum, in contradistinction to a "cup-shaped" socket.

In cases where the adductors are not freely torn and the anterior tissues not overstretched, relapse into the dorsal position may occur. Then replacement may be made, again and again, with a reasonable prospect of success. This was demonstrated in Ochsner's celebrated case, where three replacements were made before a perfect and permanent replacement was effected.

My experience leads me to believe that if a femoral head is not actually well buried in the acetabulum, and shown to be so by the *x*-ray, when the splint is removed, it is very doubtful if a permanent replacement will ever result; the result is pretty sure to be an anterior transposition, a supracotyloid displacement or a relapse into its former position. And I am inclined to think that a replacement that can be displaced by bringing the limb down beside its fellow, and this is the condition practically always present, is not really replaced; but that it simply rests more or less deeply within the contracted cotyloid ring; that when the head readily becomes displaced it does not thereby demonstrate a shallow acetabulum, but simply a contracted cotyloid ring. It certainly indicates that a perfect anatomic replacement is not likely to be the result, but that it is not necessarily impossible.

Dr. G. G. Davis, Philadelphia, in a paper[4] read before the American Orthopedic Association, last June (1903), says: "To obtain a perfect result it is necessary, first, that a well-formed acetabulum be present and that the femoral head be likewise well formed and set on the neck and shaft in its proper position and direction. Also that the ligaments be so placed as to allow of the proper replacement of the head back into the acetabulum." With this proposition I fully agree.

In considering these cases we learn that the operative age in bilateral congenital displacements is at least a year or two years less than in unilateral cases; that the age of choice is from three to five years; that occasionally a bilateral case as old as eight or nine is possible, and a unilateral case as old as eleven or twelve; that age, *per se,* is not so much to be relied on as the amount of shortening and the rigidity; and that the results of apparent replacements in bilateral cases is much less certain; that is to say, certain of remaining in place than in unilateral cases.

We learn that anterior transposition frequently follows too violent operative measures in reduction; and that retraction (structural shortening) of the posterior muscles of the hip, as pointed out by Redard of Paris, during the period of retention in the extremely abducted position, is the cause of the outward rotation of the limb, or the inability of the patient to rotate the limb inward, and is a condition very difficult, often impossible to correct; and the generous tearing of the adductors, as practiced by Lorenz, adds to this misfortune.

On the other hand, in those cases where the final result is a supracotyloid displacement, it appears that the adductors show little or no tendency to recontract, and the limb is held sufficiently abducted to greatly, and in many instance completely, compensate for the actual shortening from 1 to 1½ inches, and the patient walks with little or no limp. Also, in some of the cases where replacement, anterior transposition or supracotyloid displacement has not been possible by the operation, much the same functional result may be had by freely tearing the adductors and subsequently maintaining the limb in extreme abduction for some months.

4. Amer. Med., Aug. 29, 1903.

In operating one is called on to choose between a possible relapse into dorsal dislocation, and the passing of the head into anterior transposition, in case perfect replacement is not obtained. If one does not tear the adductors freely, relapse into dorsal dislocation may be the result; if one tears them too freely, anterior transposition may be the result; and if one chooses the middle ground, supracotyloid displacement may be the result. A good skiagram will be of immense assistance in helping one to a choice between not tearing and tearing freely, and in the absence of a skiagram one may judge fairly accurately by the ease with which displacement results when the limb is adducted.

I am inclined to the opinion, though it has not been proved, that other congenital defects in the child, such as clubfoot, genu-recurvatum, absent patellæ, clubbed hands, defects of the elbows and shoulders, congenital kyphosis, rupture, etc., in the patient, and congenital defects in the parents (the father of one of my patients had congenital absence of the leg), all render a perfect replacement less probable.

There can be no doubt that subcutaneous division of the long-thigh muscles would make reposition much easier in all cases and possible in some otherwise impossible cases. But to a strong and patient operator the shortened muscles do not form the chief obstacle—it is the shortened nerves and blood vessels which, when put on the stretch, give paralysis and obstructed circulation. This is illustrated by Case 112, where replacement, after preliminary weight-and-pulley stretching in bed, was easily effected in a strong-muscled girl of 9 years with three inches shortening. The circulation was cut off and the hips had to be redislocated.

On the other hand, in Case 129, a girl of 13 years, the hip was replaced after preliminary stretching and the circulation remained good, but the skiagram shows the upward displacement not great, though the shortening as shown by measurement was 2½ inches. Some of this shortening was unquestionably due to the shortening of the femoral head and neck.

Paralysis, which is one of the possible accidents, appears to me to be due to a too severe longitudinal stretching at the time of the operation.

Tearing of the perineum need not result if a rubber pad is placed beneath the sheet that is passed between the legs and fastened to the table to give counter-traction.

In Case 79 a skiagram (Fig. 9) was made when the splint was removed, and shows anterior transposition of the operated hip and an upward displacement of the hip not operated on. I can not believe that Professor Lorenz could have overlooked this dislocation, and can only assume that it became dislocated during the period of walking with the pelvis tilted and the leg adducted to accommodate the leg in the plaster splint.

Fracture of the shaft of the femur, which happened in one of Lorenz' cases, and fracture of the neck of the femur, which happened once under Lorenz' operation, and twice under mine, seems to be due to lack of patient and deliberate manipulation on the part of the operator. Fracture of the shaft should be put up in plaster with the limb fully extended, as Lorenz did in his case. Figure 10 shows how good the result was. In fracture of the neck, I believe the limb should be put in extreme abduction for three or four weeks and then gradually brought down beside its fellow while the plaster splinting is continued. By this method one of my cases gave a good result, while Lorenz' case and my second case, treated for six or eight months in right-angled abduction, gave a permanent abduction deformity which promises the need of another operation.

NOTE:—The discussion on this paper will be found in Society Proceedings in this issue, in the report of the New York Academy of Medicine.

THE FIRST USE OF ETHER AS AN ANESTHETIC.

AT THE BATTLE OF THE WILDERNESS IN THE CIVIL WAR.*

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BOSTON.

On previous occasions it had been my privilege to visit battlefields, and there to administer the pain-destroying agent which it pleased God to make me the human agent to introduce for the benefit of suffering humanity. How little did I think, however, when originally experimenting with the properties of sulphuric ether on my own person, that I should ever successfully administer it to hundreds in one day, and thus prevent an amount of agony fearful to contemplate.

When the news of the commencement of the Battle of the Wilderness reached Washington, the surgeon general at once said that there would be work for his corps, and for such volunteer surgeons as could be obtained. Previously notified that a requisition would be made for my professional services, I was a "minute man," and left with the first party, taking a steamer for the landing-place called Belle Plain. . . .

I was awakened about daybreak by the clatter of hoofs and rattling of wheels. Peeping out from under my blanket I saw a four-horse ambulance, and heard the driver say to an orderly: "We have brought down General Getty, badly wounded, and must go back to Fredericksburg right away." "Now is my chance," thought I, and springing to my feet, I sought the medical director, who cheerfully gave me an order to go

* This is an abstract from an unpublished paper by the late W. T. G. Morton, M.D., of Boston, to whom the world is so deeply indebted for his early investigations of ether anesthesia. It was written soon after the Battle of the Wilderness in May, 1864, and has been furnished for publication by his son, Dr. Wm. J. Morton of New York City, by request of Dr. Henry O. Marcy of Boston. As an introduction we quote the following from the valedictory address delivered by Dr. John H. Brinton to the graduating class of Jefferson Medical College in 1892:

"Let me, from personal reminiscence, relate an anecdote in point: In the early summer of 1864, during the fierce contest in the Virginia Wilderness, I was present officially at the headquarters of Lieutenant-General Grant, on whose staff I had previously served. When in conversation with him, an aide approached and said to him that a stranger, a civilian physician, wished to see him for the purpose of obtaining an ambulance for his personal use in visiting the field hospitals. The answer of the General was prompt and decided: 'The ambulances are intended only for the sick and wounded, and under no circumstances can be taken for private use.' This response was carried as given to the waiting applicant, a travel-stained man in brownish clothes, whom at the distance I thought I recognized. I went to him and found that he was Dr. W. T. G. Morton. I asked him to wait a minute, and returned to the General. On repeating his request I received the same answer. 'But, General,' I ventured to say, 'if you knew who that man is I think you would give him what he asks for.' 'No, I will not,' he replied. 'I will not divert an ambulance to-day for any one; they are all required elsewhere.' 'General,' I replied, 'I am sure you will give him the wagon; he has done so much for mankind, so much for the soldier; more than any soldier or civilian has ever done before, and you will say so when you know his name.' The General took his cigar from his mouth, looked curiously at the applicant, and asked: 'Who is he?' 'He is Dr. Morton, the discoverer of ether,' I answered. The General paused a moment, then said: 'You are right, Doctor, he has done more for the soldier than any one else, soldier or civilian, for he has taught you all to banish pain. Let him have the ambulance and anything else he wants.' Not only this, but I have learned from a printed letter of Dr. Morton, recently sent me by his family, that the hospitalities of the headquarters—ambulance, tent, mess and servant—were afterward tendered him during his stay, by order of the general commanding."

back in the ambulance, so that I left before my professional associates were awake.

Fredericksburg is nine miles distant from Belle Plain, with which it is connected by two main roads, and just now by a score or so of avenues, constructed for existing emergencies. The country, all the way between these points, is stripped entirely bare of fences, stock and products of whatever description, and, in the entire distance, I do not remember to have seen more than six houses. Immediately back of the landing at Belle Plain a range of hills stretches away to the east in abrupt, precipitous angles, with deep ravines ribbing their sides, through which roads have been constructed, along which the immense trains climb with difficult ascent, often overturning, sometimes breaking down, utterly. On the summit of this range of hills are thick growths of low timber, while the slopes are strewn with patches of thicket—mostly of pines and scrub oak. The place is inexpressibly wild and desolate, and the only living beings visible were teamsters, wounded soldiers and mounted patrols.

In one dreary defile up came four men from behind us, and rode past at a brisk trot, two on each side. As they wore the Federal uniform, neither the driver nor myself mistrusted them, until, as if by magic, two each seized one of our leading horses, while the other two cut the reins and traces, and away they went. They were a quartette of guerillas, who thus helped themselves to a good pair of Uncle Sam's horses, leaving us to pursue our journey with a single pair instead of four-in-hand. The audacity of the rebel guerillas is astonishing, although they invariably seek unarmed or wounded subjects for plunder, and keep a wide distance from our patrols.

At last we rattled over a pontoon bridge, and entered the remains of the war-desolated city of Fredericksburg, once one of the most beautiful and flourishing places in Virginia. It is regularly laid out, the streets are shaded with trees, and although the houses are not noted for their architectural beauty, yet they are built with an idea of simplicity and of convenience which can not but charm the beholder. Nearly every house has a large garden, both in the front and rear, filled with all kinds of vines and flower trees. . . .

At first, there was confusion and lack of supplies, causing much suffering and discomfort. But Surgeon Dalton, the efficient medical director, soon had everyone made as comfortable as circumstances would permit, and the Sanitary and Christian Commissions did their share of the noble work. Scores of volunteer nurses, state relief agents and other good Samaritans did what they could to relieve the necessities and alleviate the sufferings of these brave wounded men.

The ambulances could not have brought one-tenth part of them, and the rest were brought in wagons, eleven or twelve miles over the remains of a planked road, worn by war-travel. In places the larger wagons had to be pried out of the deep holes with trimmed trees. The delays of the entire train from this cause were frequent and long. The depth of these holes, and the instinct and habit of the lead and middle team of mules to trot away from a wagon in a sudden descent, in order to escape the whipple-trees, inflicted on the unfortunate wounded, blows and jars excruciatingly torturing and that wasted their remaining vitality. Over every rod of the way and in the best two-horse spring ambulances, a jarring motion was communicated by the absence of half the planks on the planked side of the road, and the ruts and holes cut into the clay side during a week's rain by the transportation machinery of an army of a hundred thousand men. On such a highway, and in such a manner, did these poor fellows, who stretch their hands out of these ambulances and army-wagons for tin-cupfuls of water, painfully travel—some with arms off at the shoulder, some with legs off above the knee, some with an arm and leg both off, hundreds shot through the leg or arm or the breast, some with horrible wounds of the face—even to the loss of the jaw and the destruction of speech—all presenting, in the aggregate, every possible variety of gunshot wound. . . .

Having been assigned quarters in a fine old mansion, I commenced going the rounds of the buildings used as hospitals, to administer anesthetics. There was at first a lack of supplies, and many of the wounded, who had been jolted over hard roads some eight and forty hours, were in a bad condition. Several hundred, packed into a church or hall, without change of clothing or washing, made the atmosphere unbearable almost, and gangrene and erysipelas began to make their appearance, but this was soon remedied.

One of the principal hospitals was the Baptist Church, which was literally packed with wounded. The tank intended for immersion was used as a bathing tub, and the operations were performed in the pastor's small study, back of the pulpit.

The Free Masons' hall was also filled with wounded, and there remains much of the paraphernalia of the lodge in which Washington received his degrees. I found one poor fellow who was a member of the fraternity, and at his request had his bed moved to the platform once occupied by the master's chair, where he lay and gazed upward at the mystic letter "G," as if secure under its protection.

It was a noteworthy fact that, although each of the great armies which met in the Battle of the Wilderness had at least 250 pieces of artillery, there were not in the hospitals at Fredericksburg a dozen men wounded by cannon shot or shell. Out of the 3,000 reported as wounded in Hancock's demand, not one had received a shot or shell wound from artillery. It was also noticed that many of the wounds received were caused by balls which had glanced from trees or rocks, inflicting comparatively slight injuries. I was informed by a division surgeon that out of about 1,000 wounded under his charge, not over thirty were permanently disabled. . . .

By Thursday, May 12, the wounded at Fredericksburg were all well cared for. Surgeons and nurses had arrived. The Sanitary and the Christian Commissions were actively at work. All those patients who could bear transportation were being sent away, and I was beginning to think of making a visit to the front, when a summons came requesting me to hasten thither. There had been fearful fighting, as General Grant had swung around his army out of the bloody Wilderness, and he now faced Spottsylvania Court House.

Leaving Fredericksburg in company with an officer of my acquaintance, we started for headquarters. Just out of the town we passed some four or five hundred army wagons, each one with its four or six horses or mules ready for service, yet near the supplies of forage.

There were also large droves of cattle, brought from the western states for the use of the Army, and killed as they were needed. The road, if road it may be called, was wretched indeed, the horses often sinking in mud

holes to the saddle girths. Through this ambulances and wagons were floundering along, carrying the wounded to Fredericksburg, while others, only slightly injured, plodded along on foot. Occasionally we passed an impromptu camp, where these slightly wounded men had stopped to rest, and several newly made graves showed where some poor fellows had made their last halt.

It is the most sickening sight of the war, this tide of the wounded flowing back. One has a shattered arm, and the sling in which he carries it is the same bloody rag the surgeon gave him the day of battle; another has his head seamed and bandaged so you can scarcely see it, and he weaves like a drunken man as he drags along through the hot sun; another has his shoe cut off, and a great roll of rags wound around his foot, and he leans heavily on a rough cane broken from a pine tree; another breathes painfully and holds his hand to his side, where you see a ragged rent in his blouse; another sits by a puddle, dipping water on a wounded leg, which, for want of dressing since the battles, has become badly inflamed; another lies on a plat of grass by the roadside, with his browned face turned full to the sun, and he sleeps. So I passed hundreds, in riding a few miles. They move along silently, making no complaints, asking no questions and no favors of the passerby. Such heroic bravery and fortitude are only surpassed by their valor on the field of battle.

The appearance of the country along our way is calculated to make the scene all the more impressive. The two hostile armies which have occupied this part of the Old Dominion ever since the war begun, have fought over nearly every acre of this ground. Although there were fine farms and luxurious old Virginia homes along this road, not a house, not even a rail, is to be seen. Desolation seems to have marked it for her own. At long intervals the blackened walls, ruins of Virginia, stand as a ghostly record of rebellion. The plains are already grown up with wild bushes, and are fast taking the appearance of the old battlefields to which we used to make long pilgrimages with curious interest.

On reaching the top of an eminence, I at last saw our line, in the shape of a horseshoe, somewhat straightened out, with troops all around, in readiness for instant attack, while beyond them, crouched in rifle-pits, were our pickets. Riding through regiments and batteries I reached a house which had been pointed out to me as General Grant's headquarters, but found on my arrival that he had moved so that the building might be used as a hospital. Just then several wounded rebels were brought up on stretchers, and the surgeon in charge, who had known me after Burnside's attack on Chancellorsville, invited me to administer anesthetics, which I did. All of them had limbs amputated, and seemed very grateful afterward for the kind treatment which they received. . . .

When these wounded Confederates had been attended to, the surgeon sent an orderly with me to the headquarters of the medical director of the Army of the Potomac, to whom I reported for duty, and then, as there was no need for my services, I went on until I reached the headquarters of the Army. These occupied a group of about twenty tents, pitched along the border of a piece of woodland. In front of one of these tents, the fly of which was converted into an awning, sat the lieutenant general with several officers and Mr. Dana, the assistant secretary of war.

I had been introduced to General Grant at Washington, and he at once remembered me and gave me a kindly welcome. Had I not previously known him, I should never have dreamed that so unpretending a person was the commander of so mighty a host. He is rather undersized, compactly built, and evidently able to endure great fatigue. His sandy hair is thick and bushy, as yet not marked with gray. The barber has had nothing to do about his face since the war commenced, wherefore much of the native expression of his countenance is lost under moustache and beard. A dry, straight-cut mouth and clear gray eyes are about all that are visible. On his forehead the skin, well tanned and browned by exposure, is drawn over the frontal bone tight and smooth as a drumhead. It is said that not a wrinkle or a frown is ever seen there. It is the expression of immovable calmness. His forehead is higher and better than it appears to be, for it is concealed by coarse, bushy hair. Incessant, close and rapid thought is going on there, however quiet the external signs may be.

The general says but few words, yet he is not morose or repulsive. This reticence is not the result of misanthropy or ill-nature, for no trial of temper ruffles the calmness of his mind. No officer is more approachable. There is no general commander so ready to dispense with ceremony or the show of rank, to listen carefully and to reply plainly to the point.

I found General Meade in excellent spirits, and he gave me the agreeable intelligence of a brilliant success which had been achieved that morning, "before breakfast," as he expressed himself. Before day, General Hancock ordered a slow advance of his line of battle in the direction of the line of intrenchments held by Ewell's corps, who were in his front. Slowly and surely did his men creep forward and the dawn of day found them close on the sleeping and unsuspecting rebels.

The firing amounted to little or nothing; there was no time or necessity for such work. The shelter tents of the enemy, erected near their line of entrenchments, were entered by our troops before the rebels had time to escape from them; they were surrounded, cornered, hemmed in and fairly dumbfounded, and on the command being given to surrender they at once dropped their arms and became passive, resistless prisoners of war.

The artillery had not time to limber up and get away or fire a single volley before our dashing troops were among them. Even their general, whose quarters were somewhat in the rear, could not escape, and he, together with the greater portion of his command, became subservient to the orders and commands of the redoubtable Hancock. The prisoners taken numbered between six and seven thousand, including two generals, and some thirty pieces of artillery were also captured. This was the first battle of Spottsylvania Court House. After having narrated the morning's work, as he called it, General Grant suggested to me that it would be well to visit the scene of this sanguinary contest.

Although the rain fell in torrents, I followed his advice, and witnessed a scene which was horrible enough to curdle the blood of the coldest. The angle of the works at which Hancock entered, and for the possession of which the savage fight of the day was made, is a perfect Golgotha.

In this angle of death the dead and wounded rebels lie, literally in piles—men in the agonies of death groaning beneath the dead bodies of their comrades. On an area of a few acres in rear of their position lie not less than a thousand corpses, many literally torn to

shreds by hundreds of balls, and several with bayonet thrusts through and through their bodies, pierced on the very margins of the parapet, which they were determined to retake or perish in the attempt. The one exclamation of every man who looks on the spectacle is: "God forbid that I should ever gaze on such a sight again."

On Saturday morning, May 14, I was awakened by the booming of cannon, and learned that the enemy were endeavoring to regain their lost position. After a hasty breakfast, I began to visit the field-hospitals, to produce anesthesia where capital operations were to be performed. The wounded were brought to these field-hospitals by the newly organized ambulance corps of their respective divisions. When there was any heavy firing heard the ambulance corps, with its attendants, stationed nearest to the scene of action, started for the wounded. The ambulances were halted near by, and the attendants went in with stretchers to bring out the wounded. The rebels did not generally fire on those wearing the ambulance badges.

On the arrival of a train of ambulances at a field-hospital the wounds were hastily examined, and those who could bear the journey were sent at once to Fredericksburg. The nature of the operations to be performed on the others was then decided on, and noted on a bit of paper pinned to the pillow or roll of blanket under each patient's head. When this had been done I prepared the patients for the knife, producing perfect anesthesia in an average time of three minutes, and the operators followed, performing their operations with dexterous skill, while the dressers in their turn bound up the stumps. It was surprising to see with what dexterity and rapidity surgical operations were performed by scores in the same time really taken up with one case in peaceful regions.

When I had finished my professional duties at one hospital, I would ride to another, first arranging at what hour I would next return. In the garden of one house used as a hospital I noticed over twenty lifeless and mangled forms, bloody and ghastly—men without heads, heads without bodies, hands wanting arms. Some had died with fierce expressions on their faces; others who passed quietly from the stormy shores of time to the realms of eternal peace. The dead are buried where they fall, or near the hospitals in which they die. Their names are carefully written on wooden headboards, and entered into registers.

Early on the morning of Wednesday, May 18, the whizzing of shells announced that the second and great battle of Spottsylvania Court House had been commenced. It was four o'clock a. m. when the Union skirmishers advanced. The rebels were there, armed and vigilant. Both sides opened with cannon. Smoke and mist hung pale, heavy and motionless over the troops. On the right was Gibbons' First division. The Irish Legion had just joined them. They had seen some service on the Blackwater and Nansemond rivers, near Suffolk, during the investment of that place by Longstreet, but had never known the reality of a battle.

On the right, the Irish Legion charged with a fierce, wild shout. Two hundred yards of clear field had to be traversed before the first line of the enemy's breastworks could be reached; a battery of four brass pieces played on our men incessantly as they advanced on a double quick. All this time the sharpshooters were busy; sufficient light was lacking to enable them to sight their pieces with precision, but many an officer owes his death to their marksmanship.

At last the field is crossed. The distance was short—only two hundred yards. Who does not believe it seemed a lifetime to many of those men, who, with bent body and erect bayonet, won their perilous way, foot by foot, through whistling balls, bursting shells, gnawing grape. The rebels fly from the first entrenched line. Our brave fellows clamber over cheerily and capture a few dilatory sharpshooters, who lingered too long at their post. About midway between the first and second parallels, the line of the legion grows confused—their pace waxes slow by degrees, and finally halts, preparatory to breaking—to retreating.

They did fall back a short distance, but the veterans of the old First and Second divisions were at hand. They took no notice of confusion, and heeded the driving bullets no more than a pelting rain. Through the pines they ran, with fixed bayonets, searching in vain for the rebels. A shout rent the air, and the second line of breastworks was won. The rifle pits in front were those which had been abandoned by us; but they were filled with rebel sharpshooters, who were soon dislodged and driven through a second line and behind a thick and impenetrable abattis, which was of a most formidable character. On examination it was deemed best not to attempt charging through this barrier, and the troops fell back in good order, although exposed to a galling fire of shell and canister from both flanks.

The sun went down red. The smoke of the battle of more than two hundred thousand men destroying each other with villainous saltpeter through all the long hours of a long day, filled the valleys, and rested on the hills of all this wilderness, hung in lurid haze all around the horizon, and built a dense canopy overhead, beneath which this grand army of freedom was preparing to rest against the morrow.

On Thursday, May 19, I learned confidentially that General Grant intended to swing around toward Richmond, and I determined that I would swing around toward Washington, where imperative business before Congress demanded my presence. Before leaving I rode with a friend along the entire front of the Union line, an undertaking that at any time before would have been attended with too much peril to make the excitement compensate for the personal risk it involved. The life of our soldiers in intrenchments affords a theme on which a chapter might be written. I could with difficulty imagine that a few hundred yards only intervened between them and a foe as impassible as it is unyielding. Here were groups of officers chatting, writing letters and reading, and all along were privates making and drinking coffee, card playing and talking over the incidents of the late battle through which they had passed thus untouched by rebel bullet or shell. But all were ready to spring in an instant to musket or cannon.

From a house used as a signal station, and with the aid of a powerful telescope, I could see the enemy's works, a battery of sixteen guns, commanding the very place where I stood. These were only a small portion of the artillery they had posted and waiting for us. Their first line of works was firmly sodded on the outside, showing that it had been built for some time. At intervals were fox or rifle pits for sharpshooters. The line in our immediate front was a mile and a half long, and formed the arc of a circle. Behind this were two other lines, mainly under cover of woods. A captured rebel officer says that after the battle of Gettysburg from fifteen to twenty thousand men were employed constructing these works,

and others between here and Richmond, to cut off any approaches, in the future, of our army on their capital. The chosen position was on a commanding ridge, and to the right and left densely wooded, leaving an open field in front over which they doubtless hoped General Grant would advance to attack them. But the general chose instead to make a flank movement rather than to lose thousands by an assault. Leaving the front on Friday, May 20, to return to Fredericksburg, I passed train after train of ambulances and wagons laden with the wounded, some groaning and writhing in anguish, but none complaining.

I saw at Fredericksburg a number of our wounded, left behind in the Battle of the Wilderness, but brought in by a detachment sent after them. Never were a set of men more rejoiced than were these poor sufferers on seeing our men come to rescue them. They had been left with a few surgeons and attendants, and supplies for a number of days, but some roving squad of rebel cavalry who came in shortly after our departure, helped themselves freely to sugar, salt, hard tack and whatever else they wanted. Had our poor men been left there a day or two longer they must have died of starvation.

Some time after the arrival of the squad above mentioned, Hampton's Legion of cavalry arrived, and its commanding officer promptly placed a guard over the hospitals and declared nothing more should be taken, yet his men took all the sugar and coffee they could find in the haversacks of dead or wounded. Dr. Armstrong, of the Eleventh Virginia cavalry, dressed the wounds of our men, and showed them great kindness, for which act of humanity his name deserves honorable mention.

I found Fredericksburg as I had left it—one vast hospital. But during the week of my absence great changes for the better had been made. Wounded men arriving covered with dust and blood, weary and faint, were placed in the hands of the nurses in the wards they were to occupy; their tattered garments, as they often are, removed, the purifying and soothing application of a warm bath made, the wound is examined and ministered to by the surgeon in attendance, and, arrayed in clean and suitable apparel, the patient was placed gently on a hospital couch with bedding well aired and clean. The process was similar in the case of all who were brought in. There is no crowding, no confusion. Each ward had its designated number of occupants, its number of nurses—one nurse being usually assigned to ten men, while the surgeons had from eighty to a hundred patients assigned as the complement of each. This arrangement secured good and sufficient attention to the patients in all cases where those having charge showed ordinary intelligence and fidelity.

The patients appeared cheerful and patriotically happy. A shot in the arm, or leg, or side, or shoulder, had prostrated many of them. Sometimes a bandaged brow or jaw suggested a tale which told itself, and occasionally a woefully attenuated form spoke of wasting illness. But almost every occupant of the long rows of beds was in the very best of spirits, cheerful in the memory of duty done, and exultant in the prospect of that which is to be consummated. What was particularly noticeable in these soldiers was their modesty in speaking of themselves, their generosity in mentioning their comrades. They could scarcely be brought to dwell on their own exploits and disasters, and reverted with the brave fondness of military devotion to those of the men with whom they had battled side by side. These soldiers of the Union are as enduring on the sick bed as they are valiant in the field. They do not whine nor grumble.

General Grant having decided to evacuate Fredericksburg, the wounded were removed to Washington in steamers. . . . The scene at the Washington wharf was a painfully interesting one. The high bluffs commanding a view of the landing were thronged with women and children, all in attitudes of expectation and anxiety. The entrance to the gangway was similarly beset. The gangway itself was lined with groups inquiring for friends or relations, or administering to the wants of wounded soldiers. At the end of the wharf long tables were spread with such refreshments as might be required by the suffering men, and ladies and gentlemen in the service of the Sanitary Commission busied themselves in ministering to their wants. As a general rule, the wounded bear their sufferings with almost stoical firmness. Hardly a groan was heard as they were borne along the wharf on stretchers to the ambulances, although the nature of the wounds of many must have rendered the least movement extremely painful.

Time will not enable me to describe the scores of hospitals in and around Washington, where tens of thousands of unflinching heroes have received and are receiving the nation's choicest care. The minister of the gospel, the surgeon, the philanthropist and the devoted loyal women of the metropolis vie with each other in giving their time to these wounded soldiers. The poor fellows receive tender nursing, watchful guardianship by day and by night, and all the kindly ministrations that gratitude and affection can suggest.

The hospital heroes, suffering as they do, do not lead a blank, complaining life. The invalids arranged along the extensive vistas of the wards, sprinkle with numberless jokes the surface of serious conversation. Each, in spirit at least, "shoulders his crutch and shows how fields were won." Some of the wounds reported as slight are fearful enough to make the patient wince and the beholder shudder. The budding spring is too green and pleasant, the air too golden and balmy, to be in complete accordance with a scene like this. The windows and doors are wide open, and the gentle breeze streams through. The blue of the sky and the green of the meadow are mutually harmonious in beauty, and it is this which makes us feel there is such a dissonance between the scene without and that within.

As to the hospital fare, concerning which complaints are sometimes made through the papers, perhaps not always without reason, the wants of the invalids are certainly provided for, as far as may be, in a wholesome and substantial way. Luxuries and various delicacies are not to be looked for, of course.

Plain vegetables, such as potatoes, turnips, cabbage and onions, are furnished, with good bread, and, if obtainable, good butter, rice, hominy, milk, tea and coffee, fresh beef, soups, bacon, with eggs, chicken, and custard or pudding occasionally for extremely delicate palates. Many hospitals, indeed, have a less varied bill of fare than this, particularly at certain seasons of the year, when several of these articles are scarce and to be procured only at great pains and cost. But most well-managed hospitals can point to such a variety as evidence of the liberal provision made by the government for those who have been disabled in its service. In addition to this the ample stores of those grand voluntary agencies, the Sanitary and Christian commissions, are freely opened to the constant applications made by the hospitals in behalf of their inmates. These commissions fur-

nish to the sick a great variety of articles which the government does not furnish. Jellies, canned fruits, jams, domestic wines, cordials, lemons, may serve as a sample of the various provision flowing to stanch the soldier's wounds and soothe his sorrow, from the inexhaustible fountain of sympathizing hearts at home. Warm garments to cheer him in winter, light, loose garments to promote his ease and comfort in summer, reach the soldier to gladden him, from the same source. Indeed, this love to the poor soldier, gushing forth still buoyant, tireless, irrepressible in these grand benefactions from countless home circles over the land, forms one of the sublimest spectacles of the day. It is a mighty power, too, in this struggle, that is doing more at this moment to strengthen the government and make its trying work successful, than any amount of brute force with all "war's dreadful enginery" to back it.

While I have endeavored to describe to you the mighty struggles of the Wilderness and of Spottsylvania Court House, I have also desired to demonstrate that the wounded soldier is well cared for. Countless home circles from which the young, and noble, and tenderly-endeared have gone forth in the cause of an imperiled country, may be relieved from the anguish of feeling that their loved ones, prostrated by bullet or disease, are left unregarded or without proper care and attention, to bleed, languish and die. The government has guarded with anxious vigilance against all this. Its paternal care has taken, all over the land, the form of a beautiful system of means and appliances aiming at the relief, comfort and healing of the maimed and war bruised. And the soldier's kin and friends may feel and know, and take comfort as they do so, that if the fate of war should number their most cherished ones among the hosts whom sickness seizes or bullets pierce, they will find on the hospital couch the ministry of kind and skillful hands to soothe and mitigate their pangs, and, if God will, win them back to health.

For myself, I am repaid for the anxiety and often wretchedness which I have experienced since I first discovered and introduced the anesthetic qualities of sulphuric ether, by the consciousness that I have thus been the instrument of averting pain from thousands and thousands of maimed and lacerated heroes, who have calmly rested in a state of anesthesia while undergoing surgical operations, which would otherwise have given them intense torture. They are worthy of a nation's gratitude—happy am I to have alleviated their sufferings. For the dead heroes we mourn—but let all the patriotic benevolence, and science, and philanthropy of the republic be brought into requisition for the benefit of the wounded.

THE INTRACELLULAR TOXIN OF BACILLUS PYOCYANEUS.*

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The object of this research was to ascertain whether or not *Bacillus pyocyaneus* contains an intracellular toxin. Some years ago Buchner obtained from this organism a large quantity of a pyogenetic proteid. He took the germ substance from potato cultures, rubbed it up with water and then treated it with about fifty volumes of a 0.5 per cent. solution of caustic potash. This formed in the cold a mucilaginous mass, which dissolved at the temperature of the water bath and after being heated for several hours was filtered and acidified with acetic or hydrochloric acid. The acid threw down a precipitate, which was collected, washed with water, and was injected subcutaneously into animals. It was also placed in sterilized spindle-shaped glass tubes, and introduced under aseptic precautions under the skin of rabbits. After from two to three days the tubes were removed and found to contain, in addition to some of the proteid, several cubic millimeters of fibrinous pus, which proved to be sterile.

In 1889, Charrin and Roger, working with *Bacillus pyocyaneus,* made the experiments which may be said to be the starting point of all subsequent work on agglutination. These facts made it desirable to ascertain whether or not this organism contains an intracellular toxin.

My own work may be summarized as follows: Pure cultures were grown in the large tanks used in this laboratory, and after fourteen days, the germ substance was removed from the agar, precipitated with alcohol, collected on a hard filter and extracted with alcohol and ether. The toxicity of the germ substance for guinea-pigs is shown in Table 1.

TABLE 1.—THE TOXICITY OF THE POWDERED GERM SUBSTANCE OF BACILLUS PYOCYANEUS WHEN INJECTED INTRAPERITONEALLY INTO GUINEA-PIGS.

Protocol Number.	Weight.	Amount Injected, mg.	Results.	Hours.	Proportion of Toxin to Body Weight.
1	215	43.00	+	12	1 to 5,000
2	250	50 00	+	12	
		(2 + in 12 hours.)			
3	230	23.00	+	12	1 to 10,000
4	190	19.00	+	12	
		(2 + in 12 hours.)			
5	290	14 50	+	12	1 to 20,000
6	190	9.50	+	12	
		(2 + in 12 hours.)			
27	180	4.50	+	12	1 to 40,000
28	195	4.86	+	12	
		(2 + in 12 hours.)			
21	200	4 44	+	12	1 to 45,000
22	245	5.44	+	12	
		(2 + in 12 hours.)			
7	250	5.00	+	12	1 to 50,000
8	230	4.60	+	12	
17	220	4.40	+	12	
18	210	4 20	+	12	
		(4 + in 12 hours.)			
15	240	4.36	—		
16	230	4.18	—		
19	235	4.27	+	24	1 to 55,000
20	240	4.36	—		
		(1 + in 24 hours; 3 —.)			
23	180	3.00	—		
24	215	3.54	—		
13	190	3.166	—		
14	265	4.401	+	24	1 to 60,000
		(1 + 24 hours; 3 —.)			
25	210	3 23			
26	305	4.69	+	24	
11	210	3 23	—		1 to 65,000
12	220	3.384	+	12	
		(2 + in 12 to 24 hours; 2 —.)			
9	315	4.20	—		1 to 75,000
10	260	3.466	—		
		(2 —.)			

It will be seen from Table 1 that the powdered germ substance of *Bacillus pyocyaneus* is surely fatal to guinea-pigs when injected intraperitoneally in the proportion of 1 part to 50,000 parts of body weight.

When injected subcutaneously in guinea-pigs, even in as large a quantity as 1 part of the toxin to 10,000 of body weight, the only inconvenience that resulted was a slight swelling at the point of inoculation, followed by temporary loss of weight. Subcutaneous injections did not give immunity to subsequent intraperitoneal treatments.

These results show that the toxin is not destroyed, although it is slightly diminished at the temperatures given in the tables.

* This paper and the two which follow are from a series of studies of bacterial cells, research in the Hygienic Laboratory of the University of Michigan, 1903.

TABLE 2.—TOXICITY OF THE GERM SUBSTANCE OF BACILLUS PYOCYANEUS INJECTED INTRAPERITONEALLY INTO GUINEA-PIGS AFTER BEING HEATED.

Number.	Weight.	Injected, mg.	Results.	Hours.	Proportion to body weight.
30	240	4.40	+	12	1 to 45,000
29	180	4.50	+	12	1 to 40,000
30	240	4.40	+	12	1 to 45,000
31	140	2.80	+	12	1 to 50,000
(30 minutes at 75 C.)		(3 + in 12 hours.)			
32	250	5.00	+	12	1 to 50,000
33	230	4.60	+	12	
34	225	5.00	+	12	30 minutes
35	245	6.10	+	12	at 100 C.
		(4 + in 12 hours.)			
36	220	4.40	—		1 to 50,000
41	190	3.80	+	12	
37	190	4.20	+	12	1 to 45,000
40	230	5.11	+	12	
38	240	6.00	+	18 days.	1 to 40,000
39	205	5.12	+	12	
(30 minutes at 110 C.)		(5 + in 12 hours to 18 days, 1 —.)			
44	245	4.9	+	18	1 to 50,000
45	250	5.00	—		
47	235	5.22	+	18	1 to 45,000
43	225	5.00	+	18	
42	200	5.00	+	16 days	1 to 40,000
46	220	5.50	+	12	
(30 minutes at 120 C.)		(5 + in 12 hours to 16 days, 1 —.)			

The intracellular toxin can not be extracted, at least not in appreciable quantity, by physiologic salt solution; 100 mg. of the germ substance was suspended in 50 c.c. of physiologic salt solution, placed in a sealed tube, and vigorously agitated in a mechanical shaker for twelve hours, at the end of which time the emulsion was filtered through heavy Swedish filter paper, and the filtrate found to be without toxic effect. This is found to be true, whether the germ substance was freshly taken from agar cultures or had been previously extracted with alcohol and ether.

When the germ substance was extracted with 1 per cent. of sulphuric acid and this extract treated with absolute alcohol, a precipitate was obtained. This precipitate, after having been washed until the washings were free from acid, dried and injected into animals, proved to be toxic, but much less so than the original germ substance.

While no appreciable amount of toxin could be obtained from the cell substance, a hemolytic body was extracted with physiologic salt solution; 100 mg. of the germ substance which had been hardened by the action of alcohol and ether, was suspended in 50 c.c. of physiologic salt solution and agitated for twelve hours, after which it was filtered through heavy Swedish paper. To three tubes containing each 10 c.c. of a 5 per cent. solution of defibrinated blood, the following quantities of physiologic salt solution extract of the germ substance were added:

Tube 1 received 10 c.c. of the extract.
Tube 2 received 1 c.c. of the extract.
Tube 3 received 0.1 c.c. of the extract.

These tubes were placed in the incubator for twenty-four hours, at the end of which time complete hemolysis had occurred in Tube 1. In Tube 2, about one-third of the blood had been dissolved, while in Tube 3 the hemolytic action was found to be very slight.

The hemolytic substance was also extracted from the unhardened fresh germ. Some of this germ substance was shaken with physiologic salt solution for twelve hours and then passed through a Berkefeld filter; 13 c.c of this filtrate was found to completely dissolve all the blood corpuscles in 10 c.c. of a 5 per cent. blood solution in twenty-four hours at incubator temperature.

My conclusions may be stated as follows:

1. *Bacillus pyocyaneus* does contain an intracellular toxin.

2. This toxin can not be extracted from the cell by physiologic salt solution. It is in part extracted by dilute sulphuric acid.

3. Heat to 120 C. in the autoclave continued for thirty minutes only slightly diminishes the toxicity of the cell substance.

4. The cell substance of *Bacillus pyocyaneus* contains a hemolysin, which may be extracted from the cell, either in the fresh state or after treatment with alcohol and ether by physiologic salt solution.

5. The minimum lethal dose of the cellular toxin is for guinea-pigs when given intraperitoneally about 1 part of the cell substance to 50,000 parts of body weight.

6. When injected subcutaneously in guinea-pigs in the proportion of 1 part of the cell substance to 10,000 parts of body weight or less no permanent ill effect results.

7. Subcutaneous injections do not give immunity to subsequent intraperitoneal injections.

THE EFFECT OF PUTREFACTIVE BODIES ON THE CHEMICAL TESTS FOR MORPHIN.*

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In at least three important trials for murder, the possibility of putrefactive products being mistaken for morphin has arisen. The first of these was the Sonzogna trial at Cremona, Italy, in which it is probable that the experts confounded a putrefactive body with morphin. This substance was extracted from either alkaline or acid solutions with ether, but could not be removed with amylic alcohol. It reduced iodic acid, but in its other reactions, also in its physiologic properties, it bore no close resemblance to morphin. In the Buchanan case in New York every test for morphin was duplicated with putrefactive products, so that the distinguished chemists present were not able to tell which of the two portions contained the alkaloid. In the case of Dr. Urbino de Freitas of Oporto, Portugal, who was accused of attempting the wholesale murder of his wife's family by the administration of morphin, the toxicologists who investigated the case relied for the detection of this alkaloid on the color reactions applied to residues obtained by following Dragendorff's method. The chemists reported not only morphin, but narcein and probably delphinin. The defense questioned the reliability of the tests used, and many of the most prominent toxicologists of Europe became more or less involved in the controversy.

These cases are enough to illustrate the desirability of further investigation along this line. Many methods have been suggested for the extraction of morphin in medicolegal cases, without confounding it with any putrefactive body. The best of these methods is that advanced by Kippenberger, who holds that the alkaloidal tannates are soluble in glycerin, while the putrefactive bodies likely to interfere with the tests for morphin are insoluble in this agent. A careful reading of Kippenberger's paper shows that this statement does not rest on any extensive experiments. The method of work in the investigation herewith reported may be described as follows: Six liter flasks were cleaned, rinsed with distilled water, and in each of these there was placed 500 gm. of chopped beef liver and 1,000 c.c. of distilled water. These flasks were then placed in the autoclave and sterilized at 120 C. for forty-five minutes. After having been heated, the flasks were allowed to stand at room temperature for twenty-four

* See note to previous paper.

hours, when their sterility was proven by inoculating tubes of beef tea with material from each flask. After this these flasks were treated as follows:

No. 1 was inoculated with *Bacillus pyocyaneus;* No. 2 was treated with 100 mg. of morphin and then inoculated with *Bacillus pyocyaneus;* No. 3 was treated with 200 mg. of morphin and then inoculated with *Bacillus pyocyaneus;* No. 4 was inoculated with *Bacillus coli communis;* No. 5 was inoculated with *Bacillus coli communis* and treated with 100 mg. of morphin; No. 6 was treated with 200 mg. of morphin and inoculated with *Bacillus coli communis.*

All of these flasks were then placed in the incubator at 37 C., where they were kept for two weeks. At the expiration of this time they were all autoclaved at 120 C. for forty-five minutes. A 2 per cent. solution of tannic acid in glycerin was poured into each flask in an amount equal to the mass therein contained. The flasks were then placed in an incubator and kept for forty-eight hours at 40 C. Then the flasks were removed from the incubator, the contents strained through muslin, and the filtrate heated on a water bath at 60 C. for one-half hour in order to bring down the coagulable proteids. After filtration through paper the filtrates were shaken with twice their volumes of petroleum ether. After separation of the ether the material was heated in order to drive off traces of the solvent, and then rendered slightly alkaline with sodium hydrate and shaken with chloroform. The chloroform extract from each flask promptly reduced iodic acid and potassium permanganate. Like results were obtained with amylic alcohol extracts from an alkaline mixture. None of these residues gave either the ferric chlorid or the Froehde test for morphin in a satisfactory manner. Great difficulty was experienced in obtaining clean pure residues. This was true with both the chloroform and amylic alcohol extracts, and it was found to be necessary to repeatedly take up the residues with water slightly acidulated with acetic acid, and again render alkaline and shake with the solvent. Crystalline residues were finally obtained from only two flasks, one of which contained morphin, while the other did not. The crystals in both of these cases seemed identical microscopically with those obtained from an alkaline solution of morphin shaken with chloroform, and the chloroform extract evaporated. The crystalline residue was so small in amount that the possibility of determining the melting point was excluded.

It must be evident from these results that a satisfactory method of extracting morphin in medicolegal examinations is not furnished by Kippenberger.

THE EXTRACTION OF A TOXIN FROM LIVER CELLS.

A PRELIMINARY REPORT.*

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AND
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The liver of an ox, just after the animal had been slaughtered, was obtained and passed through a sausage machine, finely dividing the structure and removing a considerable portion of the connective tissue. This finely divided material was stirred up with five times its volume of 1 per cent. sulphuric acid, and the mixture was heated for three hours and thirty minutes in the water bath at a temperature of 81 C. Then it was heated for three hours longer over the direct flame at 100 C. and filtered. The filtrate proved to be a clear, light amber-colored fluid, which was added drop by drop to three volumes of 95 per cent. alcohol, with constant stirring. The precipitate which formed was collected on a hard filter, washed with alcohol, and then dissolved in a minimum amount of water. This solution was again precipitated by adding it drop by drop to three times its volume of 95 per cent. alcohol. This precipitate was washed with alcohol and ether, then redissolved in distilled water. This process was repeated until the aqueous solution failed to give a test for sulphuric acid with dimethylamidoazobenzol. The substance thus obtained was dried in vacuo and ground, first in a porcelain and then in an agate mortar.

The cleavage product thus obtained, when dissolved in water and injected intraperitoneally into guinea-pigs and rabbits, kills the animal when the proportion is 1 part of the extract to 500 parts of body weight. When used in smaller quantities there is more or less marked emaciation, depending on the quantity injected, from which the animal recovers very slowly. So far we have not been able to secure any marked degree of immunity by beginning with small doses and gradually increasing the quantity.

After acute poisoning with the quantity above mentioned, postmortem examination shows the liver of the dead animal to be deeply congested. The spleen is soft and mottled, with dark and pale red spots. The kidneys show no gross changes, but the adrenals are markedly congested. The gastric and mesenteric vessels are greatly dilated, and there are frequently found small hemorrhagic areas under the peritoneum. We are now engaged in studying the effects of very small doses frequently repeated on the structure of the liver and other organs.

* See note to paper of Dr. MacIntyre.

A METHOD OF MICROSCOPIC OBSERVATION BY MEANS OF LATERAL ILLUMINATION.

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INTRODUCTION.

Last year two German physicists, Siedentopf and Zsigmondy, published an article[1] in which they described an apparatus for the observation of ultramicroscopic particles. The object which they selected for examination consisted of a piece of glass through which was diffused uniformly particles of metallic gold in a very fine state of division. By means of a powerful light—either the sun or an electric arc—passed through a complicated system of condensers, a very small but exceedingly intense focus of illumination was obtained. The piece of glass containing the gold was placed in this focus so that the light entered the glass from the side. It was then observed with an ordinary microscope from above. By this arrangement none of the light entered the microscope directly. To the naked eye, or with the ordinary microscope, the glass appeared perfectly homogeneous. But by this special illumination the individual particles of gold so reflected and refracted the light that they could be observed as distinct luminous points. This being the only light that entered the microscope, the particles appeared as bright points against a dark background.

1. Annalen der Physik., 1903, x, 1.

Three conditions are necessary for seeing particles: First, they must not be beyond the limits of visibility of the apparatus; second, they must not be too near together, about 0.25 micron being the necessary distance in order to distinguish them from one another; third, they must have an index of refraction different from that of the surrounding media.

Siedentopf and Zsigmondy were able to calculate the size of the particles observed. Knowing the amount of gold in the glass, and then counting the number of particles seen under the microscope in a definite volume of the glass, the size of the particles could readily be calculated. They found that they could see particles as small as 0.005 micron and even smaller. This is within the limits of the size of molecules, as calculated by Van der Waals and others. Since the limit of observation had been placed by Helmholtz at about 0.2 micron, a tremendous stride was taken in reducing the limits of visibility. These authors also made observations on colloidal solutions. Mouton[2] later suggested the application of this method to bacteriologic problems.

Since then Raehlman[3] has been continuing the work. He has reported observations on colloids, sugars, glycogen, dyes, etc., in which in high dilutions numerous small particles with characteristic movements may be observed. Also he has been able to see organisms with progressive motion in filtered putrefying liquids.

Mouton and Cotton,[4] following the work of Siedentopf and Zsigmondy, suggested a modification of the method described above. This consisted in passing a concentrated pencil of light, emanating from a Nernst lamp, through a suitable piece of glass in such a way that the light is totally reflected from the upper surface of the glass or the upper surface of a cover-slip placed on it. When such a piece of glass is placed under the microscope no light will pass directly into the tube of the instrument, and any particles in the glass or between the glass and cover-slip will become illuminated and can be directly observed. They very briefly reported a few preliminary observations made at that time.

Last fall, at the suggestion of Professor Hektoen, I attempted to set up an apparatus following the fundamental idea suggested by Mouton and Cotton.

DESCRIPTION OF APPARATUS.

The source of light used is a Nernst lamp. This is a non-vacuum electric lamp, which can be screwed into an ordinary incandescent light socket. The current passes through a short filament composed largely of metallic oxids, such as magnesium, zirconium, cesium, and which consequently emits a very intense white light when raised to the proper temperature. The glass globe of the lamp is covered with lampblack on the inside, except a small round area about 0.5 cm. in diameter at its vertex. This black is used to prevent all reflection of light from the inside of the globe. In this manner we have a pencil of rays passing through the clear area at the vertex of the globe and coming from a small but intense source of light. This pencil is now passed through a condenser. For this purpose a low-power objective is very suitable and convenient. I have used one the focal distance of which is about 1 cm.

The essential part of the apparatus consists of a triangular glass prism properly supported and so placed beneath the objective of a microscope that its upper surface is horizontal. The light coming from the condenser is directed from below obliquely upward and enters the prism at right angles to one of its lateral surfaces. It passes to the upper surface of the prism and is there totally reflected and passes out through the other side of the prism. A clear conception of this arrangement is easily obtained by reference to the diagram (Fig. 1). In order that total reflection shall occur at the upper surface of the prism, it is necessary that the angle x made by the incident ray and the perpendicular drawn to the surface at the same point, be of a certain magnitude. Otherwise the rays will simply be refracted at the upper surface. For glass and air the magnitude of this angle, known as the critical angle, is about 41 degrees. If it is greater than this total reflection occurs; if less, the rays pass through the upper surface and are simply refracted. Therefore, for our purpose, the angle x must always be greater than 41 degrees. This is very important, for if there is not total reflection some of the light directly enters the microscope. Now it is also necessary that the light should enter the surface bc at right angles, or approximately so, for otherwise there will be troublesome refraction here. It can be seen, therefore, that the magnitude of the angle b of the prism is very

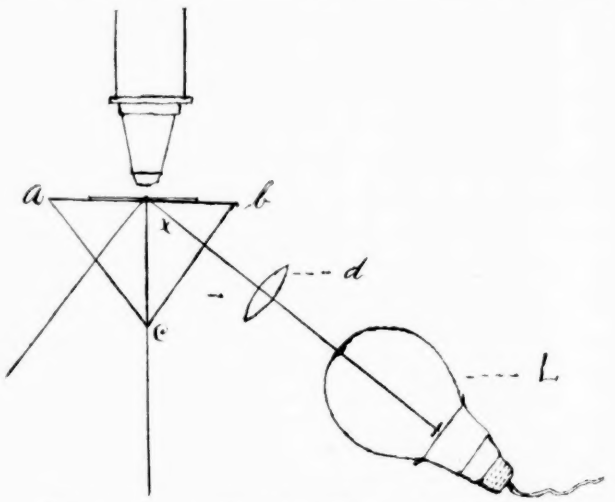

Fig. 1.—a, b, c, prism; d, condenser; L, Nernst lamp.

important, since it is always equal to angle x, as can be readily shown geometrically, provided the ray of light enters the surface bc at right angles. It therefore follows that if angle b is less than 41 degrees total reflection will not occur.

At first I used a right-angled isosceles prism, angle b being in this case 45 degrees. This was found unsatisfactory, because the converging rays on the lower side of the pencil of light were not all reflected, some passing through the surface and into the microscope above. I have, therefore, resorted to the use of an equilateral triangular prism, each angle being 60 degrees. This fulfills the necessary conditions.

For the examination of any fluid a drop or two is placed directly on the prism and a cover-slip applied. Or the fluid can be mounted with a cover-slip on a glass slide in the ordinary way, and the slide placed on the prism and separated from it by cedar oil or any substance with about the same index of refraction as the glass. The former method is much more convenient. Under these conditions the light passes through the fluid to the upper surface of the cover-slip and is then totally reflected. Any particles in the fluid in the path of the light will be made visible by the light which they reflect and refract, enlarged also by diffraction. Also

2. Bull. de l'Institut Pasteur, 1903, i, 97.
3. Münchener med. Woch., No. 48, 1903, also No. 2, 1904.
4. Comptes Rendus de l'Acad. des Sciences, No. 26, 1903.

the phenomenon of irradiation operates here to cause the luminous particles to appear larger than they really are. It is only this light, therefore, which enters the microscope, and it can be readily seen why it is so necessary to exclude all other light. We see in the field of the microscope the particles as bright points of light against a dark background; hence the appearance which has been likened to the stars in the heavens.

Attention should be called to the fact that it is necessary to have the prism surface and the surfaces of the cover-glass as nearly perfect as possible. Unfortunately a perfect surface can not be obtained. Every defect in the glass surfaces or in the glass itself, however slight, scatters the light, and, therefore, interferes with the observations. With the best cover-slips carefully cleaned and the surface of the prism polished, this difficulty is reduced to a minimum and is not serious.

SOME PRELIMINARY OBSERVATIONS.

I have made a number of preliminary observations on different substances largely to obtain some idea of the possibilities of the apparatus and also to become familiar with the appearances of various fluids and particles in order to be better able to interpret them when seen under various conditions. I have gone through exactly the same experience a novice goes through when first learning to use an ordinary microscope. It is necessary first to become familiar with the appearance of ordinary air bubbles, slight defects in the cover-glass and débris of different kinds, cells, etc. However, with a little experience, it is remarkable how easily such objects may be differentiated, considering the fact that they are only seen by lateral illumination.

Metallic colloidal solutions afford an interesting study. It is ordinarily stated that the particles suspended in these solutions are too small to be observed with the highest power of the microscope. Ehrenhaft[5] says that such particles are about 0.5 micron in diameter. I have used solutions of platinum and silver made according to the method of Bredig by forcing the metal from the cathode by means of a powerful electric spark under double distilled water. Such solutions when examined in the light show numerous bright particles, all undergoing a rapid vibratory motion. They are by no means all of the same size, varying from particles large enough to be seen with a one-twelfth oil immersion to particles so fine that they can be just observed as the faintest points of light. Colloidal silver particles in the solution which I have examined are, on the whole, larger than platinum particles and slightly more active. The silver particles also vary in color. Three distinct tints are seen—red, white and green. I have examined three different platinum solutions and I have found the different solutions to vary somewhat in the size of the particles. This may depend on the strength of the current used in making the solutions, though I have made no observations to test this.

Many of the particles are held back by filtering through a porcelain filter. The particles are then less numerous, and, on the whole, are finer. Colloidal solutions of arsenic sulphid are also very interesting. I prepared solutions of the α, β and γ sulphids as described by Picton and Linder.[6] The particles in the α and β solutions could be seen, but not those of the γ solution. On account of the greenish-yellow color of the particles and their vibratory motion a field of exquisite beauty is presented to the eye.

5. Zeitschrift für physik. Chem., Oct. 31, 1903.
6. Trans. Chem. Soc., London, 1892 and 1895.

Of great interest is the study of animal fluids, such as serum, exudates, milk, cerebrospinal fluid, etc.

Perfectly clear blood serum which has been centrifugated shows an immense number of particles. They vary in size and have a rapid vibratory motion. Differences in the number and general appearance of the particles have been observed in sera obtained from different sources. The significance of such variations is entirely undetermined; they are certainly very suggestive.

After filtering serum through a porcelain filter the number of particles is very considerably diminished. On heating serum to about 56 C. for a few hours, a noticeable increase in the number of the particles occurs. They also appear slightly larger. This may be interpreted as a process of coagulation slowly occurring under these conditions. At room temperature also the serum changes in much the same way as at 56 C., but very much slower, the serum at 56 C. changing as much in a few hours as that at room temperature in several days. Serum kept in the ice box for two days showed no changes. These observations must be made with the serum much diluted with salt solution.

Exudates such as pericardial and ascites fluid, etc., vary very much in their appearance according to their nature. They show numerous particles—often large flakes of albumin and cells of various kinds. I have made only a few observations on such fluids.

ORGANISMS.

Micro-organisms furnish the most attractive field of any yet suggested for study by the method. Bacteria are seen as bright points of light and present an interesting sight as they tumble about in the fluid or appear in rapid motion. The method suggests itself at once as a favorable one for observing and determining motility of organisms. A few observations on typhoid bacilli have been made. They appear in rapid motion as bright points of light traversing the field in all directions, and often remind one of a display of fireworks.

The method can be applied also for observing the decrease in motility and the clumping of organisms in agglutinative tests, and I believe that it is superior to the ordinary methods used in determining the motility of bacteria.

Where the flagella are numerous, as in typhoid bacilli, they, on account of their rapid motion, appear as an indefinite flurry about the body of the organism. I have not succeeded in getting a clear picture of the flagella of the organisms when at rest.

In considering the application of this method to the study of organisms, one naturally thinks at once of the possibilities of observing the ultramicroscopic organisms for the existence of which very strong evidence has accumulated. One serious difficulty in this direction is to differentiate an organism from other particles which are usually present. If it is motile then the difficulty disappears at once. Here an excellent field opens up for the study of a number of diseases, the virus of which is known to pass through porcelain filters. For those organisms which are not motile the problem is not so easy. For example, the peripneumonia organism is just at the limit of visibility for the highest power of our best microscopes. It grows well in beef-serum bouillon, as shown by the gradual clouding of the medium after a few days. A culture of this organism was obtained from the Pasteur Institute of Paris and the organisms studied in growing culture. There was a gradual increase in the number of particles from day to day, and

undoubtedly most of these were the peripneumonia organisms. But some of the particles I am sure were not organisms, for they were too large and varied too much in size. These particles unquestionably were formed as a result of changes occurring in the medium due to the growth of the microbe. The organisms, not being motile, can not be distinguished clearly from other particles which may be present. However, uniformity in the size of the particles and distinctness in their appearance speak in favor of their being organisms rather than particles of proteid or other material. In dealing, then, with these extremely small organisms, the observations must be controlled most carefully.

Sections of tissue are not suited for the application of this method. In teased specimens, however, one can observe striation in muscle and the course of fibers in brain tissue. I could observe nerve fibers ramifying between cells, and in several instances I was able to see clearly the axis cylinder coming from the nerve cell and to trace it for some distance. The method may be of some value in studying the branching of the nerve fibers.

POSSIBILITIES AND LIMITATIONS.

The possibilities and limitations of the apparatus described here can only be determined by a large number of observations. New methods usually fail to meet all our predictions, yet they often become of service in some manner entirely unforeseen at first. The progress of science depends very largely on the development of new methods of technic, and consequently all such methods should be most thoroughly investigated before being discarded.

There is undoubtedly a large field for the application of this method in studying the structure of that important class of substances known as colloids, both organic and inorganic. This will include such substances as toxins, antitoxins, ferments and the like. The work already done by Raehlman is extremely suggestive, and indicates a most important field for further study.

Emphasis must be placed on the fact that the value of the method is by no means limited to the study of ultramicroscopic particles. One of its greatest uses will be to observe particles or objects, not too small to be seen by our ordinary microscopes, but which, owing to their slight refractive properties, can not now be seen by our present methods. Because of the property of this method of bringing out slight differences of refraction, I am inclined to believe it will replace, for many purposes, at least, the hanging-drop. That we can see objects not seen in the hanging-drop is illustrated nicely by the fact that red blood corpuscles in dilute acetic acid can not be seen either in hanging-drop or under a cover-slip when unstained, but under lateral illumination the stroma of the corpuscles is rendered plainly visible. Now it may be well that there exist important bodies whose refractive powers are too slight to enable them to be seen in hanging-drop, and which can not be stained by our present methods. In such cases this method of observation will be of positive value.

Since the method is applicable only to particles or small bodies in suspension, it apparently can be of no service in determining structure of tissues. The form of larger objects may be observed, but since the method does not magnify, the form of the smaller particles can not be determined.

In respect to the simplicity of the apparatus and to ease of examination of any fluid, this new method surpasses even the familiar hanging-drop.

Finally, I would call attention also to the fact that the few observations reported here were made with an imperfect apparatus.

A much more perfect illuminating system is desired, so as to obtain a smaller and more intense focus of light. This applies particularly to the study of ultramicroscopic particles, for it is generally true that the stronger the light the smaller are the particles which may be seen.

I wish here to express my thanks to Dr. Hektoen for suggestions.

THE DANGERS OF POTASSIC CHLORATE.

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Every obscure subject in medical literature should be reviewed from time to time on principles broader and more general than can usually be employed in text-books or special articles; and particularly when such obscurity is caused by a want of precision of language, by errors in the use of terms—faulty or loose terminology—and, what is more serious, by a failure to distinguish between two objects, which, though alike, are chemically and physiologically speaking, separate agencies.

For instance, a frequent and widespread source of error—and consequently of danger—arises from a confusion in the nomenclature. That is to say, potassic chlorate has been confounded, both in medical writings and in prescriptions, with potassic chlorid (KCL). Secondly, by a false analogy, the chlorate has been thought to have properties and effects identical with the chlorid, and not to be any stronger. For the belief that potassic chlorate and potassic chlorid are interchangeable, or at least as alike as twins, it is customary among some writers to blame the pharmacopeias. Our own, as it will be seen, is not liable to this criticism; but the German offends heavily. Thus a high authority[1] says: "In the pharmocopeia by the term potassic chlorate is understood potassic chlorid (KCL), while chemists apply the former name solely to the chlorate." A similar remark is made by Kobert.[2] On the inelegance of this ambiguous use of scientific terms, Virchow[3] comments with severity. In spite of these strictures from such good authority, it is possible to find in medical literature, numerous instances where the term "chlorid" is used where the "chlorate" is meant; and, sometimes in the course of the same paper both terms are employed so loosely that it is frequently difficult to tell from the context which is to be understood.[4] Finally, not only must the chlorid and chlorate be clearly separated, but both also must be carefully distinguished from the "hypochlorites" (KCLO, CaCLO2), often improperly called "chlorids," and in this false character responsible for some cases of poisoning.[5]

Into the error of confusing terms a writer in the *Therapeutische Monatshefte*[6] falls, while pointing out another blunder. Speaking of the danger of mixing potassic chlorate with organic or combustible substances, he cites as an instance of the non-observance of this rule the formula of a French surgeon where potassic chlorate is prescribed in conjunction with saccharin. The result was a violent detonation.[7] This mistake, absurd as it

1. Das Chlorsaure Kali, J. von Mering, Berlin, 1885, p. 1.
2. Pharmakotherapie, vol. i, p. 55.
3. Barbarismen in der med. Sprache.
4. Podcopaew: Archiv f. path. Anat., vol. xxxiii, p. 510.
5. Dict. de Thér., vol. ii, p. 1.
6. 1894.
7. Rev. de Thér. med. Chir., 1894, p. 241.

may seem, is natural enough. So, too, an examination of the literature will show that forgetfulness of the explosive power of potassic chlorate has been surpassed by a belief in the harmlessness of the salt. As long ago as 1830, there was a well-established opinion of this kind, an opinion based on experiments as ably conceived and carried out as most of the later ones. Thus, in that year, we find the matter lucidly and with great practical definiteness set forth by Professor Tully. He repeatedly gave, by way of trial, not only to his students but to himself, an ounce of potassic chlorate at a dose. No ill effects beyond slowing of the pulse and moderate intoxication were seen. It is a noteworthy evidence of the accuracy of Tully's experiments[8] that he first satisfied himself by preliminary tests that he was using true potassic chlorate and not some colorable substitute. In this respect, as well as in other ways, his investigations compare favorably with those carried on in the laboratories of Europe.

Subsequently, Isambert[9] declared himself in support of the belief in the harmlessness of potassic chlorate. He took it in doses of 20 grams, and observes that it is "d'une innocuité singulière." Again, Chaussier affirms that it may be taken without solicitude (inopinément). Another reports the case of a man who inadvertently took 9 drams without bad results. Such cases were common at one time—a fact remarked by Jacobi, who was one of the first to point out the danger. It was customary to give potassic chlorate in large amounts. It was known not to be very soluble, and for this reason as well as for its postulated safety, it was often administered in saturated solutions.[10] Even at the present day there are to be found some who maintain that the danger is almost a negligible quantity.[11] The case of Dr. Fountain, so well known, is an instance not so much of individual rashness as of the singular variability of the action of potassic chlorate. It will be remembered that he died from the effects of taking an ounce, a quantity as we have seen, that was frequently taken without harm. This case, together with one reported in Germany in 1878, were thought the only two recorded.[11]

As an explanation of that variable quantity—the toxic power of a salt—it has hitherto been found useful to employ the term "idiosyncrasy." In a negative way, this hypothesis has been of use in enabling us to describe a latency of poisonous power in a chemical body—a latency exploding into virulence under given circumstances. Latterly this idea has expanded into the notion of the pharmacodynamics of a salt, namely, the power it possesses as an entity, that is, before its molecular structure has been changed. These pharmacodynamic effects, according to Gruetzner, are proportionate—not to the absolute weight of a salt, but to its molecular weight.[12] It is, therefore, instructive to note that potassic chlorate acts in a state of almost complete molecular integrity, as it passes practically unchanged through the body; and, judging from the way in which it develops a toxic strength, it seems likely that its molecule is endowed with an uncommon potentiality, for its pharmacodynamic effects are often irresistibly sudden and fatal. This sudden explosiveness of poisonous power is to be clearly seen in the cases where the salt has been merely used as a gargle and has caused death. On this postulate of its latent danger it is possible to rest a good case against potassic chlorate; and on this basis of fact it is possible to reason out the tangle of results protocoled in the "casuistik" of the experimental pathology.

In this field a wide divergence of opinion reigns. Laborde, for example, denies that intravenous injections of potassic chlorate, even in large amounts, have any effects worth mentioning. Stokvis holds that it is of no greater power than common salt, and that it in no way alters the blood elements. This proposition is true of the action of solutions, both isotonic and hyperisotonic.[13] This view is opposed alike to common sense and to a conclusive clinical experience.[14] Yet it seems to be a fairly well-established opinion among laboratory experts. Thus Riess and Bokai[15] were unable to find the absorption bands of methemoglobin in the spectroscopic analysis of the blood of animals poisoned by potassic chlorate; nor was there any ocular proof of blood changes, such as chocolate discoloration, etc. On the other hand, in cases of poisoning in the human subject, the "striæ" of both methemoglobin and hematin have been spectroscopically demonstrated, and what is more, during life.[16] In fact, no one of any practical experience can doubt that potassic chlorate may profoundly alter the composition of the blood. What an abundant clinical experience now shows is, that this alteration of the blood may take place suddenly, and after comparatively small doses. In several instances a small dose, when taken on an empty stomach, has caused death. It shows its utmost power under these conditions, viz., where there is no mechanical interposing agency (such as food, aqueous contents of the stomach) between the salt and the avenues into the blood. It is under these conditions, as any valid observation will show, that potassic chlorate may display a treacherous power.

Importance of the Tongue in Diagnosis.—The old notion that the condition of the stomach lining was reflected in the mucosa of the tongue has been long exploded and even the débris have been scattered to the winds by a communication in the *Gazette des Hôp.* of Sept. 17, 1903, in which Mathieu and Roux discourse on the diagnostic value of the state of the tongue in affections of the digestive tract. They establish that the mucous membrane of the tongue is a false mucosa. It is not formed from the inner layer, but from the outer layer of the blastoderm. In structure it resembles the skin. The "coated tongue" is not due to an actual coating, but is, in effect, a grass plot of long and thick filiform papillæ, and the white color is due to a superficial desquamative dermitis. This dermitis arises and subsides under the influence of external and internal intoxications, like any cutaneous affection, with the important difference that the tongue is much more intensely sensitive than the skin, owing to its wealth of nerves and vessels. This lingual dermitis is, therefore, an extremely early and important sign of internal derangement, and thus the tongue retains all its old diagnostic value. The only difference is that the knowledge that this dermitis may persist after the cause has subsided should suggest that we must not wait for the tongue to clear before instituting nourishing feeding.

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8. Boston Med. and Surg. Jour., 1832.
9. Thèse de Paris, p. 14.
10. Küster: Deutsche Zeit. f. prak. Med., 1877, No. 33.
11. Berlin. klin. Woch., 1897.
12. Deutsche med. Woch., 1893, 52; Archiv f. exp. Path., 34, p. 314.
13. Bull. gen. de Thér., 1874, p. 247; Stokvis: Archiv f. exp. Path. u. Pharmak., vol. xxi, p. 169.
14. Marchand: Ibid., xxii, p. 201; Virchow's Archiv, lxxvii, 455.
15. Centralbl. f. Physiol., 1887, pp. 215 and 243.
16. Jacob: Berl. klin. Woch., 1898.

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CERTAIN PHASES OF THE MILK PROBLEM.

There are few problems in medicine to-day which, from the point of view of the practicing physician, approach in importance the milk problem. The tendency of modern medicine is toward prevention of disease rather than cure. This does not mean that the treatment of disease is considered less important to-day than formerly, but rather that, through the application of the revolutionizing discoveries made in relation to infectious diseases, it has become possible to directly attack the disease from the standpoint of etiology, an attack seldom possible before, for causative factors were so little known.

Milk, being an excellent food both for man and bacteria, furnishes a most striking source of danger, because of the possibility of its being contaminated with pathogenic germs; and since it is so universally used, and especially because it is so indispensable to the young susceptible infant, it becomes plain at once that we have here an excellent problem for the application of the principles of preventive medicine. The frightful infant mortality in our large cities during the summer months, due in a large measure to unwholesome and contaminated milk, is sufficient to stimulate our best efforts to remedy this evil. Education of the people and of the dairymen can do much. A rigid system of inspection properly conducted might accomplish a great deal. But with our ever-increasing centers of population requiring milk to be transported long distances, often passing through several hands, the problem of a pure milk supply becomes one of extreme difficulty, especially when operated on a purely commercial basis. Right here we may take this opportunity to congratulate the Chicago Milk Commission, which last summer carried on with such evident success the pure milk campaign in the heart of a large city, and we earnestly hope that the same work will be continued and extended during the coming season in this and other cities.

But there are other aspects of the milk problem which, perhaps, are not so familiar, and which should be more generally known, especially among physicians. It is a deplorable fact that the percentage of mothers who nurse their babies is decreasing as civilization advances—certainly not a very clear index of progress. C. von Bunge, in a recent article, states that this fact is supported by numerous reliable statistics. He asserts that this inability on the part of mothers to nurse their children is a mark of degeneration, and is hereditary. The physician at once is presented with the difficult task of finding a substitute for mother's milk. In so doing he should know first of all that a perfect substitute can not be obtained. The first difficulty which usually arises is that of obtaining fresh, clean cow's milk, free from contamination with harmful bacteria and their products. The pasteurization of milk has done much in obviating this difficulty, but the pasteurized product is not always easily obtained.

Next is the difficult problem of so altering the percentages of proteids, sugar, fats, salts, etc., in the cow's milk as to make it conform as nearly as possible to the composition of human milk during the different periods of lactation. Fortunately the solution of this difficulty has largely been overcome, and for this we are indebted principally to American medicine, chiefly through the work of Rotch, Holt, Gordon and others.

But there is still another difficulty which is not so easy to master. It has long been known that the proteids of cow's milk are not exactly the same, especially in their physical properties, as those of human milk. This is clearly shown by the appearance of the curd formed in cow's milk and human milk. Also the fact that the proteids can be thrown down by specific precipitins which have no effect on milk of animals of another species, indicates a difference in the properties of the nitrogenous constituents. It has recently been shown, too, that there are certain specific enzymes or ferments in milk which differ according to the animal from which the milk is obtained. These ferments undoubtedly have an important action on the subsequent digestive processes in the intestinal tract of the child. Jolles[1] found, for example, that human milk would split up five or six times as much hydrogen peroxid in a given time as cow's milk, this action being due to the presence of a ferment. He also found differences in the behavior of woman's and cow's milk toward tincture of guaiac.

Welch, in his Huxley lecture, called attention to the function of mother's milk in transferring proper antibodies to the child. These bodies are absorbed by the stomach of the child in an active state, and hence we have an explanation of the greater resisting power of the breast-fed infant to infections, while the bottle-fed infant is much more susceptible. Ehrlich also has found that suckling animals can be protected from a specific disease if fed on milk from an animal which has been rendered immune.

Such facts as these furnish a scientific basis for the problem of infant feeding. They fully explain the fact already known that bottle-fed infants are at a great disadvantage in resisting disease, and they also explain the difficulty of furnishing a perfect substitute for human milk, and they emphasize the dictum: Feed the babies, so far as is in any way possible, on mother's milk.

1. Jour. de Phys. et de Pathogen., No. 1, 1904.

THE LESIONS OF UREMIA.

Cellular activity underlies all function, so that derangement of the latter necessarily implies alteration in structure. This alteration may be molecular, and thus not permanent or demonstrable, but it may be of any degree to the point of organic disease obvious to the naked eye. In the group of disorders designated functional, it is certain that changes occur which escape detection only because of the inadequacy of our best means of investigation, but even this group has gradually been reduced in number by the discovery of lesions with the aid of more refined modern methods. Thus some cases of epilepsy are obtrusively dependent on organic or structural alterations, and the view is gaining ground that other cases are due to changes of only a less coarse nature. It has been shown further that many toxic processes are attended with cellular changes, which, it may be conceived, if long continued or profound, may result in structural degeneration. In fact, demonstration of this character has been made.

Of the disorders of the class under consideration, none is perhaps more interesting than uremia, and none affords a better field for histologic study. The symptoms to which this toxic process may give rise are in part general and in part local. The former include, especially, loss of consciousness and convulsions, the latter palsy, aphasia and headache. The diagnosis is extremely difficult. After death, the only macroscopic alteration in the nervous system consists in edema of the brain and its membranes. Lately, a condition of chromatolysis of cells in the central nervous system has been found.

An interesting and important contribution to this subject is made by Dr. T. H. Weisenburg,[1] who reports two cases of uremic hemiplegia attended with alterations in the nerve-cells of the brain and spinal cord, associated in one with recent primary degeneration of the central motor tract. The one case occurred in a woman, 71 years old, who was attacked with left hemiplegia, resulting in death after fourteen days. On postmortem examination a condition of chronic diffuse nephritis was found, without gross lesion of the brain or cord. On histologic study, however, advanced chromatolysis was demonstrable, especially in the Betz cells of the paracentral lobule, more distinct on the side opposite the paralysis. The cells of the anterior horns of the spinal cord, the medulla oblongata and the cerebellum also were altered, though in lesser degree. There was present further slight though unmistakable degeneration of the fibers of one motor tract, from the lumbar cord to the internal capsule, evidently of recent origin. The degeneration was most marked in the left crossed pyramidal tract in the cervical region, and it became less intense in the medulla oblongata and the cerebral peduncle, while only traces of it could be detected in the internal capsule.

The second case occurred in a woman, 77 years old, also with left hemiplegia, terminating fatally in the course of four days. After death chronic diffuse nephritis was found, without gross change in brain or cord, although histologically degenerative changes were demonstrable in the nerve-cells, without, however, any alteration in the motor tract.

The evidence furnished by this report, and by others of like character in the literature, both clinical and experimental, render it certain that the uremic poison is capable of causing destructive changes in the cells of the central nervous system, especially the motor cells, and that degeneration of the motor tracts may follow as a result. It is further reasonable to conclude that what is true of uremia is probably equally true of other toxic processes.

ANTITOXINS IN PURE FORM.

During the last few years our knowledge concerning the nature and working of antitoxic serums has advanced so rapidly that it is only with difficulty that one can keep up with the new facts that are coming to light on all sides. Ehrlich's side-chain theory has furnished us with a good working hypothesis on which to advance, and with its aid we can form a clear mental picture of the mechanism of the production of antibodies. We know also through Ehrlich's teaching that the neutralization of toxin by antitoxin is a chemical reaction, and efforts are being made to show that this reaction follows the same laws that are known to govern the simpler and better understood chemical phenomena. The nature of some bacterial toxins has also been studied in great detail, and attempts have been made to make an equally close study of the antitoxic bodies found in the various antitoxic serums. The great difficulty here has been to free the antibodies of the serum-albumin and serum-globulin with which they are so intimately mixed.

Pick, however, has made great advances toward getting the antibodies in pure form by making use of Hofmeister's method of fractional salting out of proteids. According to this method, the serum-globulin is divided into (1) fibrinoglobulin, which is precipitated by a small percentage of ammonium sulphate; (2) euglobulin, which is precipitated by adding one part of a saturated solution of ammonium sulphate to two parts of serum; and (3) pseudoglobulin, which is precipitated only by half saturating the serum with ammonium sulphate, the albumin still remaining in solution. Pick found now that the fibrinoglobulin and the albumin possess no antitoxic properties, while either the euglobulin or the pseudoglobulin contains all the antitoxin. Which one of these two globulins contains the antitoxin depends on the kind of animal from which the serum is taken, whether a horse or a goat, and on the kind of toxin used in the process of immunization, whether from diphtheria, tetanus or cholera cultures. He found, for instance, that the diphtheria and tetanus antitoxins

1. Proceedings of the Pathological Society of Philadelphia, February, 1904, p. 62.

in horse's immune serum are precipitated with the pseudoglobulin, while these same antitoxins in goat's immune serum are precipitated with the euglobulin. This is very interesting, because it points to the probability of there being a fundamental difference between the several antitoxins, although they seem to act alike when injected into an infected animal. The specific agglutinins in typhoid and cholera immune horse's serums may also be precipitated with ammonium sulphate, and the interesting fact has come to light that the cholera agglutinin goes down with the euglobulin, while the typhoid agglutinin comes down only with the pseudoglobulin. In the goat's and rabbit's immune serums both of the agglutinins are contained in the euglobulin. The precipitin in typhoid immune horse's serum is contained in the euglobulin, thus differing from the agglutinin for the same organism. Rodhain made a study of antistreptococcus serum from a horse, and found that both the antitoxin and the agglutinin are precipitated with the euglobulin, thus differing from the diphtheria and tetanus antitoxins, which, in horse's serum, are found in the pseudoglobulin.

Although the antibodies have been freed from a large portion of the proteids, it can not be said that they are identical with the globulins with which they are precipitated. In fact, there is evidence to show that they are not globulins, but as yet no satisfactory scheme has been published for getting them in pure form, although Pröscher states that he has succeeded in freeing them from all proteids. By means of this fractional salting-out method, the antitoxin can be prepared in a much more concentrated form, and the inert substances which have no therapeutic value need not be thrown into the patient's system, which is already overloaded with work.

THE PANAMA CANAL COMMISSION AND MEDICAL SERVICE AT THE ISTHMUS.

A recent news item announces that the Panama Canal Commission has sailed for the isthmus on a tour of inspection. Accompanying the commission were Drs. William C. Gorgas and Louis LaGarde of the United States Army and Dr. Ross of the Navy, who, it is unofficially announced, are to have supervision of the sanitary arrangements on the isthmus.

The circumstance, in all its aspects, is one of decided interest to the medical profession of America. In the first place, the commission, made up of a soldier, a sailor, four engineers (designated by law) and a railroad man—all of them, however, eminent in their respective callings—had evidently no sooner accepted their instructions from the President than they found themselves confronted by the sanitary problem, the fundamental difficulty underlying the whole enterprise. As a matter of fact, the President himself, who had previously received over fourteen hundred telegrams and a large number of letters on the subject from physicians all over the United States, went quite as far as he could in telling the commissioners that they must have first regard for the health problems, going so far even as to intimate that that department would better be placed in the hands of one man specially fitted to meet its responsibilities. That the commissioners have or have not acted on this very wise advice can not be determined from any intimation that has so far been vouchsafed to the public. It is evident, however, that, confronted with responsibilities that they knew they were technically unqualified to meet, they had no sooner taken their last sip of coffee at the White House luncheon, by which they were inducted into office, than they sent up a Macedonian cry for Colonel Gorgas—the very man whom the medical profession had been urging for appointment on the commission. This was a hopeful beginning. The addition of Drs. LaGarde and Ross to the medical advisory bureau—for, in the nature of things, it will not be permitted to be more than advisory—will even strengthen the extemporized medical corps, unless in violation of correct principles of organization it is thereby made a hydra-headed monster.

The more plausible inference—for as yet we are permitted only to infer—is, however, that Colonel Gorgas is to consider the land sanitation, Dr. Ross that relating to sea transportation, while Dr. LaGarde is to study the question from the more strictly military view point. This seems very natural, and doubtless will do very well if several questions that can hardly be called subsidiary are properly solved. Thus if, in the organization of the sanitary forces, these three apparently co-ordinate branches are made really to co-ordinate, the circumstance must be considered fortunate; if, on the other hand, each is made independently autonomous, no prophetic vision is required to foresee disaster. But the question naturally arises, where is to be the co-ordinating center? This, under the law, can exist nowhere else than in the commission itself. Thus we find this very respectable body of laymen, in spite of any regulations that they may frame, called on to sit in final judgment on questions foreign alike to their schooling and their experience. If they attempt to shift the responsibility by regulations they are still responsible for the regulations, to the general provisions of which all practical details must be made to conform.

It follows, as a consequence, that the medical profession, while placed in a position of primary accountability for results in the most conspicuous enterprise of the century, if not, indeed, of the centuries, is, nevertheless, without representation in the council that orders, directs and absolutely controls every action. This attitude of distinct subordination—an attitude that can not be otherwise than offensive to every self-respecting physician in the United States—is one for which Congress, by failing to specify that at least one medical man, as well as engineers, should be on the commission, is to be held responsible.

A DELICATE TEST FOR ARSENIC.

We again call attention to the interesting researches of Abbo, the director of the Hygienic Institute of Turin, on the detection of minute quantities of arsenic by means of the growth of a certain variety of fungus. This fungus, known to botanists as *Penicillium brevicaule,* was long since observed as a frequent and troublesome growth on the walls of damp rooms covered with paper containing arsenic. But it is only recently that it has been established that the fungus, when brought into contact with substances containing arsenic, develops with great rapidity an intense odor of garlic.

Abbo, as a result of a long series of experiments, now recommends the use of the fungus as the simplest, surest and most delicate qualitative test which exists for the presence or absence of arsenic. He has found it possible to establish definitely within a few hours the presence of minute quantities of arsenic in a contaminated flour, in the urine of patients treated with arsenical preparations, and even in a case of arsenic poisoning through illuminating gas. Abbo's assertions receive strong support in the confirmatory work of Abel and Battenburg in the Hygienic Institute at Hamburg.

The reaction for arsenic by means of *Penicillium brevicaule* is said to be so sharp that even as small an amount of the substance as one-millionth part of a gram can be detected. Obviously, here we have to deal with a delicacy of reaction which is almost unprecedented. It is of great interest that the degree of refinement in the test attained is dependent on the sense of smell, for it is by aid of the olfactory sense that even smaller amounts of certain organic substances can be made out. Thus Emil Fischer and Pentzold have shown that one five-millionth of a gram of chlorphenol can be perceived by the nose, and even a smaller quantity of mercaptan can be recognized by it. Of course, such quantities are far removed from the weight of a chemical molecule; they represent, according to present estimates, at least from two hundred millions to several billions of molecules. Nevertheless, such olfactory reactions are far more delicate than ordinary optical tests.

The "arsenic-fungus" grows well on potato, and can be kept in pure culture, without transplantation, over a long period; there seems to be no reason, therefore, why the test should not be frequently applied, even by the physician in private practice. That the reaction will play an important part in legal medicine there can be no doubt. No less an authority than Professor Kobert holds the discovery of the arsenic-fungus to be one of the greatest of modern victories for forensic medicine.

COMMISSION TO MEDICAL SOCIETIES.

A new form of commission evil comes to light. An enterprising firm imbued with the spirit of the age (at least that portion of it denoted as "grafting"), has made a novel proposal to the secretaries of state medical associations. We quote:

We are sending you by mail a display card with booklet on the ——— ——— ———, which we would kindly ask you to have displayed in any prominent place at the meeting, either in the Assembly or Exhibit Hall where physicians who are interested in the treatment of ——— may see the same; for which courtesy we will send the association or you a draft for five dollars ($5.00) on the first order received from any ——— surgeon or hospital following the meeting.

A smirking pretense of regard for the proprieties is shown in the half-hearted proposal to donate the remuneration to the association in case the secretary has a conscience.

INHERITED DEFORMITY.

In the Vienna correspondence of the *Medical Press and Circular,* March 12, it is reported that Dr. Heim presented before the medical society at Vienna (*Gesellschaft der Aerzte*), a woman aged forty, who twenty-one years before had suffered from injury and blood poisoning of the right middle finger, which necessitated two years later amputation of the finger with the third metacarpal bone. Since then she has had six children, four of whom have had cloven hands shaped in the same manner as their mother's, with, in some cases, a rudimentary third metacarpal bone. Heim also gave a history of a similar condition existing in three generations in another case. Considering the fact that the inheritance of acquired characters is a matter of dispute and is positively denied by a large school of medical writers, such reports as these are deserving of a thorough investigation. They are in accordance with the popular belief, but the satisfactory evidence of their occurrence is not often complete or forthcoming. We trust that this case will be thoroughly authenticated or disproved, and the relation of the original injury to the inherited defect be, if possible, adequately traced out.

TITLES OF PAPERS.

One of the interesting features of the editor's work in looking over other medical journals is to note the varieties in titles and the peculiarities of authors. The titles of some articles are so long that they almost make it unnecessary to read the paper. Harris Hawthorne Wilder, in a letter to *Science,* March 18, comments interestingly on long titles, which he classifies as "explanatory" or as "modest." In the first, an author endeavors to show exactly what he is covering in his paper; in the second, he seeks to bring out that he appreciates the vastness of the subject and how little he really has accomplished. One of the latter often begins, "A contribution to the study of." Wilder says that although composed in the most laudable spirit, such titles are hardly necessary, since there is little danger of misunderstanding on the point guarded against by the writer. Wilder suggests the use of a title and a subtitle. This is a plan we often use in THE JOURNAL, making the title brief and general, and including in the subtitle certain definitions and limitations of the subject. We are amused by the title at the head of Wilder's communication, but we do not know whether he or the editor of *Science* is responsible for it. It is "On Titles for Pa-

pers." What possible use the word "on" may have is unknown to us. There is often much room for improvement in titles, and the elimination of unnecessary words is one means of improvement.

THE OCCURRENCE OF TYPHOID BACILLI IN THE EXCRETA OF TYPHOID CONVALESCENTS.

The importance, from a prophylactic point of view, of knowing how long the typhoid bacillus may remain in the excreta can not be overestimated. As far as the urine is concerned there have been numerous observations in the past few years, which have led to an appreciation of the fact that the typhoid bacillus is present in the urine in a fair percentage of typhoid cases, and that it may remain even years after convalescence has been established. Herbert[1] has recently been able to study both the urine and the feces in a large number of convalescent typhoid patients during an epidemic in a hospital for the insane. The urine of ninety-eight convalescents was examined, and the typhoid bacillus was found in eighteen or a little over eighteen per cent. of the cases. In the same number of cases typhoid bacilli were only found in the stools three times, a little over three per cent. An interesting fact in connection with the urine examinations was that the bacilli appeared intermittently in one case. They would disappear for a few days and then reappear again, often in large numbers. The important practical fact shown by these investigations is that the urine of convalescent typhoid cases is much more dangerous than the feces, and should be most carefully disinfected in all cases until the bacilli disappear.

NEW IMMUNITY TERMS.

"Antitrope," or "antitropin," is a new term which Wright[2] has invented as a generic term for the antibodies. Aside from the fact that it is undesirable to introduce a multiplicity of terms to designate the same thing, we are inclined to consider the word itself a poor one. The use of *anti-* is appropriate in two senses; it expresses, in the first place, the antagonism which an antibody has for its counter-substance, and suggests also the general law that by immunizing with proper proteid bodies there are developed new bodies the specific opposites of those injected. The term antibody seems, then, to express the important qualities in a generic sense. The addition of *-trope* or *-tropin* (from the Greek τρεπειν, to turn) introduces the idea of affinity into a word which already bears the meaning of antagonism. Either root may be considered as appropriate, but the two combined add nothing essential to the already established *antibody*. Through its use Wright has provided us with the following combinations: agglutinating, bactericidal, bacteriolytic, antitoxic, and opsonic antitropins. "Opsonin" is used to designate that quality of a serum which makes a microbe more susceptible to phagocytosis, the term having its origin from a Greek word which means "to provide food for." It is questionable if such a quality of serum, as a distinct one, has been sufficiently determined as to justify our looking at it in this specific manner. It may well be that the bactericidal substances, or in some cases the agglutinating, so impress the bacteria that they become more readily the prey of the phagocytes. Hence, until opsonin can be demonstrated as a substance distinct from these, the word does not commend itself for general use.

1. Münchener med. Woch., vol. li, No. 11. THE JOURNAL, page 1056.
2. The Practitioner, February, 1904.

THE PASSING OF THE CORONER.

After four years of strenuous effort the Elsberg bill abolishing the office of coroner in Greater New York has been passed, its passage having been materially aided by an emergency message from the governor. The bill does not affect the coroners now in office, but no successors will be elected. The only powers that remain to the coroners are those of investigation. They may collect evidence and take testimony to aid the magistrate and district attorney. In addition to the valid reasons which have been previously given in THE JOURNAL for the passage of such an act, there will be a saving in New York City of not less than $60,000 per year, beside putting an end to the ignorant and corrupt practices which have grown up under the late evil system. Some of the political coroners, it is said, have been unable to speak intelligible English, and miscarriages of justice have occurred on this account. How deeply this long-continued abuse had established itself is evidenced by the fact that the bill was introduced and beaten in four legislatures before its final passage. Under the present law there is provided a chief medical examiner and six medical examiners for Manhattan Borough, four for Brooklyn, three for Queens and two each for the boroughs of Bronx and Richmond. They are to be physicians appointed by the mayor, as far as practicable, from the coroners' physicians now in office. The medical examiners are to form a part of the health department, their duties being to make reports in all suspicious deaths to the magistrate, and if the examiner is not satisfied with the result of the examination as to the cause of death he is to invite the district attorney, and then make an autopsy in the presence of that officer and of a policeman. The people of the city of New York are to be congratulated on the departure of this antiquated relic of monarchical government.

A PLEA FOR PATHOLOGIC PHYSIOLOGY.

The remarks of Professor Orth, chairman of the *Deutschen pathologischen Gesellschaft*, at its last meeting in Cassel, in which the desirability of cultivating pathologic physiology in contrast with pathologic anatomy was strongly emphasized, have just been published in full.[2] It was a favorite idea of Virchow's, though Virchow himself was a pathologic anatomist, that the science of pathologic physiology should be developed; such a science includes the essence of practical medicine, for the latter is only applied theoretical medicine, that is, pathologic physiology. Pathologic physiology is founded on pathologic anatomy, clinical observations

1. See editorial, Jan. 10, 1903.
2. Verhandlungen der Deutschen pathologischen Gesellschaft. Sechste Tagung gehalten in Kassel, Sept. 21-25, 1903. Jena: G. Fischer, 1904.

and experimental investigations; it has as its task the establishment and explanation of the vital processes under abnormal conditions. It is a biologic science, standing in the same relation to pathologic anatomy as that in which normal physiology stands to normal anatomy. It is necessary to admit, as Professor Orth does, that the development of pathology thus far has been predominantly along morphologic lines. Clinicians have, it is true, made notable contributions to the pathologic physiology of man; much more perhaps can be hoped from them when universities establish clinical chairs with honoraria large enough to absolve the holders from the necessity of making a living from private practice, permitting them to devote more of their time and energies to the scientific side of their work. But experimental pathologic biology is the branch which, perhaps, more than any other needs attention just now. It is matter for regret that by far the majority of chairs of pathology in this country and in Germany are devoted to work in pathologic anatomy, to the exclusion of pathologic physiology, except, perhaps, as a side issue in some of the laboratories. An ideal department of pathology should provide for teaching and investigation in experimental pathologic physiology, as well as in pathologic anatomy. We do not wish to see the autopsy table and the microtome banished from our laboratories of pathology; quite the contrary. Let them be forced to yield us what information they will. But, in addition to our morphologic pathologists, we need a generation of young pathologists, trained in mathematics, physics and chemistry, who will approach the study of disease and its phenomena from the functional rather than from the morphologic side. Possibly progress might more rapidly be made in this direction if some of our stronger and wealthier universities were to establish special chairs for experimental pathologic physiology.

THE RADICAL CURE OF HERNIA.

There seems no reason now why patients, and especially young patients, should any longer be discouraged from having radical operations for hernia done, and encouraged to wear trusses with all the danger and inconvenience and discomfort that this form of treatment entails. There are still many physicians, however, who seem to feel that operation should not be suggested, and who perhaps have not fully realized what is the present position of surgery in this matter. In the last number of the *International Medical Annual*,[1] Dr. Mayo Robson, the distinguished English surgeon, reviews the statistics of a number of operators for the radical cure of hernia, and shows very clearly how favorable have been the results immediate and eventual of operation. In Johns Hopkins Hospital there was only one death in 459 operations. In Carle's clinic in Rome, two deaths in over 1,400 operations. In the Vienna clinic, three deaths out of 804 operations. In Dr. W. B. Coley's 1,075 cases only two deaths. All of these reports combined give a mortality of scarcely one-fifth of 1 per cent. In spite of ominous prognostications from older surgeons, the ultimate results in the majority of cases are even better than have been anticipated by the advocates of early operation. Out of 917 Bassini's operations not quite one out of every 100 cases suffered from a relapse of the hernia, though many of the cases were old and complicated. When relapse does occur, it comes within six months almost without exception. Patients who remain cured for a year after the operation, may be expected to continue in this condition, and after two years may be considered permanently cured. This is an excellent result to obtain at so slight a risk. An analysis of the cases in which death occurs would still further enhance the encouragement afforded by the statistics, since many of the fatalities were due not to septic infection nor to any mishap during the operation, but to conditions like the effect of anesthetics or of kidney irritation, which could not well be foreseen and guarded against. When the very high mortality of strangulated hernia is considered, the picture thus presented becomes even still more striking. At the present time in hospital practice more than one out of every five patients are lost, even in the hands of excellent operators. In private practice the mortality is less than 10 per cent., but this is surely not low enough to encourage the taking of the risk. There seems no doubt, then, that physicians should recommend much more generally than they do at the present time the radical cure of hernia by operative procedure rather than, as is commonly done, prescribe a truss. The smaller the hernia the more easily the operation is performed and the less danger there is of recurrence. It is after tissues have become weakened and deformed by the frequent protrusion of the hernial sac that the operation becomes more dangerous and relapse becomes more possible. Here that much-abused term, conservatism, seems to indicate operative intervention rather than the supposedly palliative, but in many cases really provocative, treatment by apparatus.

[1] Page 434, E. B. Treat & Co., New York, 1904.

Medical News.

CONNECTICUT.

For the Endowment Fund.—Under the will of the late Mrs. Anna Sophia Farnum, the endowment fund of the Yale Medical school receives the income of $50,000.

Shoemaker Lectures at Hartford.—The third lecture in the course at Walnut Lodge Hospital, Hartford, was delivered by Dr. John V. Shoemaker, Philadelphia, who spoke on "The Abuse of Drugs."

Talks on Tuberculosis.—Popular lectures have been given in New Haven under the auspices of the local medical association, on the "Prevention and Cure of Consumption," by Dr. Louis M. Gompertz in English; by Dr. Nicola Mariani in Italian, and by Dr. Polinski for the benefit of those who understand neither English nor Italian.

GEORGIA.

Smallpox.—Smallpox is reported to be raging at Babcock, about eight miles from Colquitt.

Commencement.—Atlanta College of Physicians and Surgeons, at its commencement exercises, March 29, conferred diplomas on a class of 43.——On April 1 the Medical College of Georgia, Augusta, graduated a class of 22.

Personal.—Dr. John A. Corry, Barnesville, has been made local surgeon of the Central Railroad of Georgia, vice Dr. K. Lowder Reid, removed to Atlanta.——The Valdosk Board of Health has organized with Dr. Benjamin S. Burton, president, and Dr. James M. Smith, vice-president.

ILLINOIS.

Pure Food Bill.—Peoria County Medical Society, at its last meeting, adopted resolutions favoring the adoption of the Heyburn pure food bill.

Promotion.—Major Henry Richings, Rockford, surgeon Third Infantry, Ill. N. G., has been appointed assistant surgeon general, and chief surgeon of the Third Brigade with rank of lieutenant colonel.

Physician a Fugitive.—Dr. Benjamin F. Slusher, Decatur, who was indicted by the Macon County grand jury, charged with the death of a woman by a criminal operation has disappeared, and the governor has offered a reward of $200 for his apprehension.

Chicago.

New Internes.—Of the new internes at Cook County Hospital, 8 are graduates of Rush Medical College, 4 of Northwestern University Medical School, and one of the College of Physicians and Surgeons.

Evans for President of State University.—The name of Dr. William A. Evans is the one most prominently brought before the profession and public thus far, as successor to President Draper of the University of Illinois. The medical profession, which knows Dr. Evans well, is most active in urging his candidacy.

Pneumonia on the Decrease.—The 111 pneumonia deaths of the week represent but 18 per cent., instead of the previous average of 21 per cent. of the total deaths. There is a similar decline in New York. The following are the figures for the two cities during the current pneumonia season, from Nov. 1, 1903, to April 16:

	New York.	Chicago.
Total deaths, all causes	36,831	13,586
Deaths from consumption	4,128	1,423
Deaths from pneumonia	7,769	2,968
Proportion per cent. of all deaths—		
From consumption	11.2	10.4
From pneumonia	21.1	21.8

The Deaths of the Week.—With the exception of the acute intestinal diseases, Bright's disease and pneumonia, all the important causes of death show an increase in the returns for the week. The total of 616 is 54 more than the total for the previous week, but is 24 less than for the corresponding week a year ago. In proportion to population this is 8 per cent. per 1,000 more and 7 per cent. per 1,000 less for the respective weeks. As compared with the average April death rate of the previous decade—17.31 per 1,000—it is 4.8 per cent. less. Pneumonia leads with 111 deaths; then follow consumption with 78; heart disease with 50; violence with 43, and Bright's disease with 39 deaths.

INDIANA.

Smallpox.—At Aetna Green, Kosciusko County, there are about 60 cases of smallpox. Vaccination is in progress and close quarantine is enforced.

Hurty Re-elected.—The Indiana State Board of Health has unanimously re-elected Dr. John N. Hurty, Indianapolis, as secretary of the Board for a term of four years.

March Deaths.—During March 3,487 deaths occurred, an annual rate of 17.4 per 1,000. In the corresponding month of 1903, 2,677 deaths were reported, an annual rate of 13.8 per 1,000. Pneumonia caused 711 deaths, as compared with 399 in March, 1903.

Fire in Indianapolis Hospital.—Fire in St. Vincent's Hospital, Indianapolis, early on the morning of April 17, caused one death, that of an aged nurse, who jumped from a fifth-story window; necessitated the removal of about 200 patients, and caused a loss of $2,000. Further casualties were avoided by the presence of mind and heroism of Miss Hannah Heaken, a nurse, and of James Dawson, a patient.

Personal.—Dr. Ira E. Dunlavy, Indianapolis, has been appointed first deputy coroner of Marion County, vice Dr. John F. Geis, deceased.——Dr. and Mrs. Leo J. Weinstein, Terre Haute, have taken a trip to Bermuda.——Dr. Stanley W. Edwins, Elwood, has retired from active practice.——Dr. and Mrs. Edmund D. Clark, Indianapolis, sailed for Italy, April 12.——Dr. Sarah Stockton, Indianapolis, has been appointed a member of the State Board of Charities and Corrections.——Dr. William E. Green, Hanover, had his arm broken and sustained internal injuries in a runaway accident.

MARYLAND.

Will Build Hospital Wing.—Mrs. Margaret E. S. Hood, a member of the board of directors of the Frederick City Hospital, will erect a wing to the hospital as a gift, to cost about $8,000.

Governor Signs Bills.—The governor has signed the following additional bills: Tuberculosis commission; abolishing Allegany Insane Asylum; restricting sale of narcotic drugs; omnibus appropriation bill, appointing five police surgeons for Baltimore; appropriation for state Board of Pharmacy; regulating practice of medicine and registration of nurses.

Baltimore.

Cecil Rhodes Scholarship.—Twelve candidates appeared last week at the Johns Hopkins University to compete for the one Cecil Rhodes scholarship at Oxford University allowed this state. The successful candidate will receive three years' tuition at Oxford and $1,500 per annum. He can pursue in his discretion a collegiate, post-graduate or professional course.

Personal.—Dr. William Hewson Baltzell leaves for Europe, April 29.——Dr. H. M. Cohen sailed for Europe April 20.——Dr. Harry C. Jones of the chemical department of Johns Hopkins University, has received $1,000 from the Carnegie Institute for research work in physical chemistry. He has appointed Dr. H. P. Basset research scholar.——Dr. Thomas H. Buckler will spend the summer at Northeast Harbor, Maine.

Ehrlich on Immunity.—Dr. Paul Ehrlich lectured on immunity, April 12, 13 and 14. On Tuesday evening a smoker was given in his honor at the Maryland Club, and on Wednesday evening a dinner by the Medical Faculty of Johns Hopkins University. There were about 60 present from Baltimore, New York, Philadelphia and Washington. At the close of Dr. Ehrlich's last lecture, Dr. William H. Welch addressed him in a complimentary speech in his own language.

Health Report.—Ten new cases of smallpox were reported in Baltimore last week, making 19 now at quarantine. There are 19 suspects at the detention barracks. The cases recently discovered have been scattered through the city, showing that they were of local development, and that the contagion has obtained a foothold here. The total deaths were 191, or 17.69 per 1000 per annum; consumption causing 31, pneumonia, 19; heart disease, 16; Bright's disease, 14, and typhoid fever, influenza, and scarlet fever, each 5.

MICHIGAN.

Lower Michigan Should Boil Water.—The State Board of Health has issued a bulletin urging that all drinking water in lower Michigan be boiled on account of recent floods, by reason of which there has been much surface drainage into wells.

Buys College Property.—The Medical College Equipment company of Grand Rapids has been incorporated with a capital stock of $1,500, to acquire the property of the Grand Rapids Medical College and has leased the property to the trustees of the college.

Wooden Anniversary of Biologic Department.—The Stearns laboratories, Detroit, celebrated the fifth anniversary of their establishment, April 7. Unique wooden invitations were issued and several hundred physicians took occasion to visit the laboratories and observe the work in progress there. A buffet luncheon was served and wooden souvenirs were distributed.

Comparative Morbidity.—For March, 1904, compared with the preceding month, cancer, smallpox, cholera morbus, meningitis, membranous croup and puerperal fever were more prevalent; and syphilis, typhoid fever, intermittent fever, and dysentery were less prevalent. For the same month, compared with the average for March in the previous ten years, 1894-1903, scarlet fever, typhoid fever, smallpox, and diphtheria were more than usually prevalent; and pneumonia, erysipelas, inflammation of bowels, intermittent fever, remittent fever, whooping cough, dysentery, cholera morbus and puerperal fever were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during March, 1904, at 10 places; whooping cough at 22 places; diphtheria at 81 places; typhoid fever at 82 places; smallpox at 138 places; measles at 152 places; scarlet fever at 162 places; pneumonia at 166 places, and consumption at 233 places. Meningitis reported present at the same number of places: whooping cough at 2 places more; diphtheria at 16 places less; typhoid fever at 5 places less; smallpox at 7 places more; measles at 23 places more; scarlet fever at the same number of places; pneumonia at 57 places more; and consumption at 26 places more, in the month of March, 1904, when compared with the preceding month.

March Mortality of Michigan.—The total number of deaths for the month of March was 3,406, which was only 19 more than the number returned for the preceding month. The death rate was 16 per 1,000 population, as compared with 17.1 for the preceding month. Important causes of death were as follows: Tuberculosis of lungs, 270; typhoid fever, 57; diphtheria, 38; scarlet fever, 31; measles, 27; whooping cough, 21; pneumonia, 384; influenza, 156; cancer, 149; accidents and

violence, 199. Deaths from pulmonary tuberculosis and typhoid fever showed some increase, while diphtheria, pneumonia and influenza caused considerably fewer deaths in March than in February.

MINNESOTA.

Smallpox.—During the last week of March, 62 cases of smallpox were reported to the State Board of Health. Of these, 17 were in Minneapolis, with one death.

St. Paul **Physicians Win Suit.**—Drs. Charles A. Wheaton, John T. Rogers and Warren A. Dennis, St. Paul, who were sued by William Henslin, for $22,500 on account of injuries alleged to have been suffered by him while under *x*-ray treatment, have been held blameless by the jury.

Half a **Century of Medical Work.**—On April 1, colleagues and friends of Dr. Charles F. Warner, Mankato, gave a banquet "in honor of fifty years' continuous service in war and peace in the honorable practice of his profession." Dr. E. J. Davis presided as toastmaster, and after many eulogistic toasts had been given, Dr. Warner closed with reminiscences.

St. Paul **Has Little Typhoid.**—The death-rate of St. Paul from typhoid fever in 1901, 1902 and 1903 is announced to have been about 16 per 100,000, less than one-third the death-rate of Minneapolis for the same period, about one-half the death rate of cities and villages between 2,000 and 20,000 inhabitants, and less than a third greater than the death-rate in rural communities in the state.

Personal.—Dr. Donald B. Pritchard, Winona, was thrown from his buggy in a runaway accident, April 6, and suffered a fracture of the leg and severe contusions.——Dr. Albert A. Ames, recently discharged on a technicality, after having been convicted of receiving bribes while mayor of Minneapolis, was again arrested April 14 on a similar charge.——Dr. Henry Hutchinson, St. Paul, has been elected president of the State Board of Health, vice Dr. Franklin Staples, Winona, deceased, and Dr. William H. Rowe, St. James, was elected vice-president.

MISSOURI.

Graduating Exercises.—St. Louis College of Physicians and Surgeons graduated a class of 46, April 12.——University Medical College, Kansas City, held its commencement exercises, April 12, and conferred diplomas on a class of 67.

How Long!—Many people near Carson have been ill with an undiagnosticated disease, pronounced by certain of the local talent to be itch. The State Board of Health has made the usual investigation with the usual result—smallpox.

Damages Against Healers.—The Supreme Court of the state has affirmed the decision of the circuit court of Bates County, which allowed $7,500 damages to Sue L. Longan, in her suit against S. A. Weltmer and J. H. Kelly, "magnetic healers," of Nevada, for criminal negligence.

St. **Louis Personals.**—Health Commissioner Dr. John H. Simon, who has been seriously ill with pneumonia, is now believed to be securely convalescent.——Dr. J. Mather Pfeiffenberger, has been appointed assistant superintendent of the City Hospital, vice Dr. J. S. Herrington.——Dr. Bruce Cochran, senior on the attending staff of the City Hospital, is seriously ill from septicemia due to an autopsy wound.

NEW YORK.

Epidemics.—An epidemic of diphtheria is now raging in Montgomery.——An epidemic of scarlet fever prevails in Rome, where 60 cases have been reported. Five of the public schools have been closed.

Cancer **Laboratory Gets Appropriation.**—The state cancer laboratory at Buffalo will receive its annual appropriation of $15,000 from the legislature. The chairman of the senate finance committee, who cut the item out, finally agreed that it be retained in the supply bill.

Personal.—Dr. Elmer E. Larkin, Plattsburg, was appointed a manager of the State Consumptive Hospital in the Adirondacks.——Dr. William Mabon, general superintendent of Bellevue Hospital, has been named president and medical member of the State Lunacy Commission. He will have a life tenure with a salary of $7,500 a year, and an allowance of $1,200 a year for traveling expenses.

Further **Ratifications.**—The medical associations of Wayne, Wyoming, Sullivan, Rensselaer, Westchester, Jefferson, New York, Ulster, Saratoga, Orange, Lewis, Broome and Oneida counties have ratified; a remarkable showing, as the state ratification took place only on March 25. The majority of both county societies and associations will have ratified before May. The counties that have already acted represent more than three-fourths of the entire membership.

Protection Against Blackmail.—The large number of blackmailing malpractice suits against reputable physicians led the New York State Medical Association two years ago to undertake to furnish its members with a purely fighting defense proposition, requiring the applicant for defense to agree to fight each case through to the court of last resort. The counsel for the association says that statistics show that, during the last few years, throughout the United States, one physician in every one hundred and fifty has been sued each year for alleged malpractice. The medical association, by its work, has decreased the number of these suits. In most of these cases no complaint has ever been served, and in only three has the action been put on the calendar for trial, showing that after one year of this defense an effect on the public was evident. This defense has become so well known that the whole state is covered, and physicians in other cities receive the same defense as those in New York County who are members of the association. Within the last year three of the representative organizations of other states have taken up this same plan of defense.

Report of State Health Commissioner.—Dr. Daniel Lewis, in his annual report to the legislature complained of the paucity of appropriations for the work of his department. He thought $1,000,000 a year could be used with advantage to the state. He urged the enactment of a bill now before the legislature providing $20,000 for the establishment and maintenance for one year of a new bureau of water supply and drainage in the health department for the purpose of minimizing typhoid fever epidemics. The report of Dr. Willis C. Tucker, in charge of the bureau of chemistry, included in that of Dr. Lewis, showed that out of 69 samples of food analyzed 32 were found to be adulterated. As only suspected foods were analyzed the percentage of adulterated foods would probably not be so great as this. Deaths from cancer were 10 per cent. more than for the previous year. The superintendent of public instruction reported that 14.1 per cent. of the pupils examined had defective vision. Smallpox caused only 41 deaths. There were reported 89,067 births, 48,976 deaths, and 21,376 marriages. Among other important questions set forth in the report may be noted the deplorable delinquency on the part of some local health departments in reporting vital statistics; a large number of sewage systems inspected; rules for water supply protection laid down; abatement of nuisances and investigations carried on. The report of the investigators and engineers in the alleged pollution of the waters of Lake Champlain by acid sludge from the wood pulp mills will be complete in a short time.

Buffalo.

Personal.—Dr. and Mrs. T. Wright have sailed for Europe.——Drs. Edward J. Myers, Henry C. Buswell, Hal B. Brownell and Charles W. Banta sail for Europe April 23.

Serum Will Not Keep.—An effort was made by Health Commissioner Greene to have serum for the treatment of hydrophobia sent to Buffalo from New York instead of sending victims of rabid dog bites to New York for treatment. It was ascertained, however, that this could not be done, as the serum must be used within 24 hours after it is made, and that it would deteriorate under shipment.

March Deaths.—The monthly report of the department of health for March, 1904, shows an annual death rate of 15.78 per 1,000. The principal causes of death were as follows: Consumption, 45, diphtheria, 4; scarlet fever, 2; syphilis, 7; debility, 56; cancer, 33; apoplexy, 26; dementia, 14; meningitis, 16; valvular heart disease, 27; pneumonia, 60; appendicitis, 6; nephritis, 26, and violence, 30. The total deaths for March were 500, as compared with 503 for March 1903.

New York City.

Now Dr. MacDonald.—J. MacDonald, Jr., secretary and general manager of the *International Journal of Surgery*, received his diploma from the Baltimore University School of Medicine, April 19.

Stay for Dr. Conrad.—Counsel for Dr. Conrad, convicted of malpractice, have obtained from Justice Blanchard of the Supreme Court a stay of proceedings pending the hearing of an application for a certificate of reasonable doubt.

Clinic for Drunkards.—A clinic for the cure of the alcoholic habit has been established by the Salvation Army in its barracks on West Thirtieth Street for the very poorest classes. All that is necessary to gain treatment is to make known a desire to reform.

Physicians for Office Buildings.—The board of health has received communications urging the enactment of a city ordinance compelling every office building in the city, having a floor space of 50,000 square feet, to have a physician on hand at all times.

College Raises Fees.—The trustees of Columbia University will increase the annual fees for tuition from $200 to $250. The students put in a petition asking to have the proposed change made not applicable to students who had already matriculated.

Contagious Diseases.—There were reported to the board of health for the week ended April 9, 1904: 1,706 cases of measles, with 49 deaths; 474 cases of scarlet fever, with 30 deaths; 417 cases of pulmonary tuberculosis, with 200 deaths; 387 cases of diphtheria, with 70 deaths; 101 cases of varicella, 27 cases of whooping cough with 5 deaths, and 22 cases of typhoid fever, with 8 deaths. There were also 429 deaths from pneumonia, and 29 deaths from cerebrospinal meningitis.

Gift to Speedwell Society.—At the second annual meeting of the Speedwell Country Home Society for Convalescent and Abandoned Children, Mrs. Andrew Carnegie promised to equal the total of a donation to the society from other sources for the opening of a tuberculous camp within easy reach of New York City. The society asks for $100,000 in order to carry on the work of boarding convalescent children from the tenements in carefully selected country homes, as hospital experience has demonstrated that many children on their return to homes in the tenements soon sicken again and die.

Ill Treatment Alleged.—A coroner's jury has rendered a verdict that Ludwig Knacke died in the Manhattan State Hospital, March 29, from injuries inflicted in that institution. Coroner Brown held John Shea, Walter S. Reilly and Thomas H. Reilly, nurses, to the grand jury. An autopsy revealed the fact that Knacke had twelve ribs broken. At the hospital it was stated that Knacke was suffering from injuries when he was taken in. Dr. Knapp of the hospital made out the death certificate without mentioning the fractured ribs. Later, however, he amended the certificate showing fracture of the sternum and ribs.

Personal.—Dr. T. M. Cheeseman has been appointed a trustee of Columbia University to fill the vacancy caused by the resignation of Dr. Edward L. Trudeau.——Dr. George M. Lefferts, who was recently presented with a loving-cup by his clinical assistants on the occasion of his having been made professor emeritus in the College of Physicians and Surgeons, was the recipient of another loving-cup from the senior class.——Dr. William K. Simpson will succeed Dr. Lefferts as professor of laryngology.——Dr. John A. McCorkle of Brooklyn was made a member of the advisory board of the health department.

PENNSYLVANIA.

New Medical Inspector.—The State Board of Health has appointed Dr. Daniel Dechert, Schuylkill Haven, quarantine physician and medical inspector of Schuylkill county, vice Dr. Andrew H. Holberstadt, Pottsville, resigned.

Smallpox in Shamokin.—Several cases of smallpox exist in Shamokin, and the disease continues to spread. In view of this, the State Board of Health has notified the inhabitants that unless they are vaccinated it will be necessary to close the factories and collieries.

Typhoid at Lehigh University.—Several cases of typhoid fever have been reported among the students at Lehigh University. There are also a few cases in the town. The cause is attributed to the bad water. It was only a year ago that a similar outbreak occurred when at one time there were nearly 200 cases of the disease.

Philadelphia.

Examination for Internes.—The examinations for resident internes at St. Joseph's Hospital will be held May 2. Six appointments are to be made.

Ailments Exclude School Children.—The report of the assistant medical inspectors detailed to examine public school pupils show that 57,388 children were examined from April 4 to 14, inclusive. As a result, 1,111 pupils were excluded from the schools visited because of physical ailments.

Jefferson's Summer Course.—Jefferson will conduct a summer course for undergraduates and graduates in medicine for six weeks. The course will consist of practical work in embryology, normal and pathologic histology, morbid anatomy, bacteriology, and hematology, given to small classes.

Tradesmen Help Fight Typhoid.—The Trades' League, at its last meeting adopted resolutions to assist the authorities in combating typhoid fever. They will send out over 2,000 circular letters to business firms included in their membership, asking them to furnish their employes with water free from germs. The letter describes means by which the water can be rendered germ free.

Medical Club Receives.—The quarterly reception of the Philadelphia Medical Club was held April 15. Dr. William B. Ulrich, Chester, president of the Pennsylvania State Medical Society, was the guest of honor. Previous to the meeting Dr. Edward E. Montgomery, president of the club, gave a dinner in honor of Dr. Ulrich, at which were present Drs. Henry L. Orth, John B. Roberts, Francis P. Ball, and William M. Welch, all ex-presidents of the Medical Society of the State of Pennsylvania. Others present were Drs. Hobart A. Hare, Walter M. Pyle, L Webster Fox, and J. Gurney Taylor.

Health Report.—There was a slight decrease in the number of typhoid cases reported during the week ended April 16, but still the disease prevails to a marked extent throughout the entire city, except in the two wards supplied with filtered water. The number of cases reported during the week was 359, with 29 deaths. During the previous week there were 389 cases reported and 30 deaths. There was a slight increase in smallpox cases during the week, the number reported being 25, an increase of 5 over the preceding week. The number of deaths from smallpox reported was 5, the same as for the previous week. The deaths from all causes numbered 570. This is a decrease of 27 from those of last week, and an increase of 40 over the corresponding week of last year. Deaths from pneumonia still continue high, 81 being credited to this condition; 71 were due to pulmonary tuberculosis, 46 to nephritis, and 38 to heart disease.

TENNESSEE.

Personal.—Dr. John W. Maddin, Jr., Nashville, fell from a log while fishing near Sadlersville, April 14, and dislocated his shoulder.

St. Thomas Hospital Report.—During the year 246 major operations were performed at St. Thomas Hospital, Nashville, with 3 deaths.——Dr. H. C. Brown was elected resident physician, vice Dr. William C. McCabe, term expired.

Many Graduate.—The medical department of the University of Tennessee, Nashville, graduated a class of 30, April 4.——On March 31, a class of 42 received diplomas from the University of Nashville Medical Department.——Vanderbilt University Medical Department, Nashville, held its graduating exercises, April 12, and conferred diplomas on a class of 33.——Chattanooga Medical College celebrated its fifteenth anniversary, April 4, graduating a class of 37.

Smallpox.—During the six months ended March 15 there were 3,567 cases in Hamilton County, with 70 deaths. The following counties and cities had more than 100 cases: Memphis, 443; Knoxville, 435; Knox County, 425; Union County, 250; Campbell County, 240; Monroe County, 141; Green County, 110; Shelby County, 107, and Robertson County, 106. Thirty-three counties are reported entirely free from the disease. Hamilton County still has 439 cases; Memphis, 87 cases and Knoxville, 33 cases.

TEXAS.

Held Up.—Dr. John J. Pendergrass, Leonard, was held up in his barn while getting ready to make a call, April 11, and robbed of his watch and other valuables.

State Association Meeting.—The State Medical Association of Texas will hold its thirty-sixth annual meeting at Austin, April 26-29. The house of delegates assembles April 25 at 2 p. m.

Not Dead.—Dr. William Burgess, San Antonio, after reading obituary notices of himself, announces that he was not in the Iroquois Theater (Chicago) during the fire. His obituary was, therefore, untimely and premature.

New Texas Physicians.—Dallas Medical College held its commencement exercises, April 1, conferring diplomas on a class of 25.——Baylor University Medical Department, Dallas, graduated a class of 10, April 4.——Southwestern University Medical Department, Dallas, on April 2, graduated a class of 11.

Conference at Austin.—More than 75 county and city health officers met in Austin, March 31, at a conference called by State Health Officer Dr. George R. Tabor, Austin, to take concerted action to prevent the invasion of yellow fever into Texas. Dr. Tabor urged uniform action in the work of disinfection and thorough sanitation. The conference adopted as a whole the regulations approved at the recent meeting of the Gulf States Health Conferences.

VERMONT.

Hospital **Bequest.**—Under the terms of the will of the late Wilbur F. Bramen, Montpelier, Heaton Hospital, in that city, is a beneficiary to the extent of about $30,000.

New **Hospital at Proctor.**—The new marble, steel and concrete hospital at Proctor, erected at a cost of $35,000, and presented to the town by the Vermont Marble Company was formally opened, March 26, and began to receive patients a few days later. The new building will accommodate about 18 patients.

Dr. **Grinnell Wins Suit.**—Dr. Ashbel P. Grinnell, dean of the medical department of the University of Vermont, Burlington, who sued Edward W. Western for $50,000 damages for arrest and false imprisonment, has won his suit, and the jury will pass on the amount of compensatory damages to which he is entitled.

Beginning of State Tuberculosis Hospital.—The $10,000 appropriated by the last legislature to construct a building for segregation of tuberculous insane patients, from the main body, is to be devoted to the erection of a two-story building, which will accommodate 22 patients, and to which male patients will be assigned.

GENERAL.

Large **Tetanus Mortality in Manila.**—The November, 1903, report of deaths in Manila, shows that 58.5 per cent. of all deaths and 65.5 per cent. of the deaths among Filipinos were of infants less than one year of age. There were 404 deaths among children under one year; their causes are variously reported as convulsions of children, eclampsia and tetanus. The board of health calls attention to the fact that the more prominent symptoms presented by these three causes largely resemble each other, and that there is strong reason for belief that a large number of the deaths that occur in the first month after birth depend on tetanus infection at the umbilicus. An attempt is being made to reduce this mortality. Another cause of infant mortality is exposure to cold due to non-use of sufficient clothing because of poverty or ignorance.

FOREIGN.

Concealment of Tattooing.—A female criminal has recently been on trial at Paris, who has been able to escape punishment several times by failure to identify on the part of her accusers. She claimed that she could not be the person sought, as her accusers could not have failed to note some extensive tattooing marks on her arm, as she showed the court, and yet no one had seen them, as her accusers confessed. A chemist was finally found who produced a cosmetic which caused the immediate disappearance of all evidences of tattooing—its effect lasting several hours. She had used some preparation of the kind to disguise her identity during her crimes, and had escaped justice for years by this means.

Medicolegal Evidence of Strangulation.—A young man was on trial at Mans, France, charged with strangling a young woman. The medicolegal experts, Drs. Blaise and Persy, testified to the strangling from the signs of congestion found in the lungs of the cadaver, the cyanosis of the lips, the swollen tongue projecting beyond the teeth and the foam that had collected in and around the mouth. They thought that the victim must have been strangled for one-half to four minutes to produce these signs. Brouardel did not see the corpse, but his testimony controverted that of his colleagues. He affirmed that the findings reported by the other experts indicated that the death of the young woman had been due to inhibition. She had succumbed to a violent excitation, affecting the region of the neck, which had caused the sudden stoppage of the heart. If she had not been taken by the neck she would not have been dead, but there was no evidence of strangling. None of the signs mentioned are proof of strangulation. The experts debated the matter an hour in the court, Persy concluding with the remark that "Brouardel's declarations leave us nothing to do but to make a bonfire of our text-books on medicine, for they contain scarcely anything but errors." The prisoner was acquitted of the charge of deliberate murder, and condemned merely to three years in prison.

LONDON LETTER.

Exemption from Vaccination.

The extent to which persons make use of the vaccination act of 1898, which exempts from vaccination children whose parents have a "conscientious objection" to the proceeding, is revealed by figures given by the president of the local government board. The number of certificates of exemption granted amounts approximately to 387,000. The greater number—200,000—were granted between the passing of the act and the end of the year 1898. This was due to the fact that certificates could be obtained during the four months after passing the act in respect of all children born prior to that date, while in respect of children born after that date the certificate must be obtained within four months of the birth of the child. How many of the exempted have been attacked by smallpox is not known, but several cases have been reported. No doubt in the future these exemptions will furnish an excellent soil for an epidemic of the disease.

The Sporozoa in Men and Animals.

Professor Minchin of the University of London has delivered a series of lectures on the sporozoa group of microbes which have become very important in connection with the etiology of malaria and other tropical diseases and cancer. He pointed out that the sporozoa were a group of protozoa widely distributed in nature and universally parasitic. There is perhaps no species of worm, mollusc, crustacean, insect or vertebrate which is not liable to become the host of some sporozoon. Their characteristics are in direct relation with their habit of life as internal parasites. Their nutriment is always fluid, the blood plasma or juices of their host, which are absorbed osmotically. Hence, none of the organs for ingesting or digesting solid food, so frequent in other protozoa, are ever found. The sporozoa are very fertile, an abundant progeny of several hundreds of motile spores (swarm spores) being liberated from the body of the parent within the tissues of the host. Thus the common earthworm harbors a sporozoon (monocystis agilis) which infests the vesiculi seminales and lives within the sperm mother cells. Around the margin of these cells the spermatozoa develop while the parasite grows within the cell until it attains full size and becomes covered with a layer of spermatozoa. The growing parasite is pear-shaped and consists of a single nucleated protoplasmic body which soon issues from its spurious covering and leads a free life (sporont stage). Sporonts when fully grown conjugate in pairs or gametes. Each pair secretes a cyst wall within which the protoplasm and nuclei undergo segmentation into numerous small oval masses of nucleated protoplasm (zygotes). Each zygote divides by repeated fission into eight smaller organisms within a single covering (sporozoites). These undergo no further development in the earthworm. But when the latter is devoured by birds the sporozoites are set free and pass out with the feces to be swallowed by the worm and so repeat the cycle.

The Pasteur Institute of India.

The annual report of the Pasteur Institute of India contains some interesting facts. In the year August, 1902, to August, 1903, 584 patients underwent antirabic treatment. Of these 269 were Europeans and 315 were natives. There were six failures, a percentage of 1.02. In addition there were six cases in which treatment failed because patients went too late to the institute. These cases are not counted as failures because the nerve centers were invaded before it was possible to produce immunity. In such a case hydrophobia sets in with certainty within fourteen days. Lieutenant-Colonel Semple, director of the institute, points out that the only trustworthy test of a rabid brain or cord is inoculating an animal, and that only a small portion of the brain, cord or medulla need be sent to the laboratory in sterile neutral glycerin. An antirabic serum is prepared to improve the treatment in badly bitten and late cases, by diminishing the time required to produce immunity. The serum is derived from young, healthy ponies highly immunized with the virus of rabies. The results were most satisfactory, and as the serum destroys the virus in a mixture it is thought that it may be valuable as a first dressing for the bite and for inoculation into the tissues around. These points are being investigated. Injected hypodermically it has no effect in preventing rabies inoculated subdurally. In badly bitten and late cases the object is to confer as soon as possible a high degree of immunity. With this serum a passive immunity is conferred while the patient is developing the more durable active immunity which can be attained only by inoculation with the virus. Cultures of anthrax bacilli were obtained so attenuated as not to convey the disease to the animals on which they were used but strong enough to confer active immunity. Anti-venomous serum is now being sent out from the institute for use throughout India. The horses used in preparing it are immunized with cobra venom, with viper venom, and with mixed venoms. Children and persons of feeble physique require large doses of antivenene. In a case of cobra bite when the patient is seen early and before symptoms have

occurred the antivenene may be injected hypodermically in the loins. A patient may be saved at a much later stage by giving the antivenene intravenously. The report is a very valuable one, and maintains the reputation of the Indian Medical Service for scientific work.

The London Milk Supply.

The dangers arising from contamination of the London milk supply have been previously referred to in THE JOURNAL. The question of the control of the milk supply has given rise to much discussion recently at the Society of Medical Officers of Health. The society resolved to urge the local government board to carry out its statutory powers by which it may make general and special orders dealing with the registration of dairymen, inspection of cattle, sanitation of dairies, cleanliness of milk vessels, etc.; to bring in legislation to give effect to the recommendations contained in the report of the departmental committee on food preservatives and coloring matter, which was issued in 1901; and to ensure the carrying out of the dairies orders of 1885, 1886 and 1889, especially in rural districts. It seems that most of the dirt in milk finds its way into it before it reaches the town. Consequently Mr. Wynter Blyth, health officer for the metropolitan borough of Marylebone, recommends an organized system of inspecting milk at railway stations and in the yards of large contractors.

Plague in South Africa.

In Johannesburg since the first report of plague, on March 20 down to April 5, there have been 128 cases, of which 15 were in white people. The deaths amount to 70, of which 7 occurred in whites. The great majority of the patients are Asiatics. The report of the health officer for the year ending June, 1903, gives support to the suspicion expressed by Sir Walter Foster (a well-known physician) in the house of commons, that seeds of plague must have lurked in the town to account for the sudden and startling announcemenet of 30 deaths in 38 cases. The report describes 8 cases of suspected plague. Three occurred in April of last year, and the symptoms were so striking that the medical attendants regarded them as plague, but bacteriologic examination was negative. In January, 1903, there was a notable mortality among rats, but the bodies were examined with negative results. In April rats died in large numbers in the market buildings, and the bodies of 38 were sent to the government bacteriologist, but were too decomposed for examination. Alarmist rumors were circulated at the time, but were contradicted on the ground that plague bacilli were not found. The recent outbreak gives strong grounds for believing that rats have been dying of plague for many months, and that Johannesburg has been long contaminated with the disease. In Cape Colony during the two weeks ending March 12, 8 fresh cases and 2 deaths are reported from Port Elizabeth. Capetown appears to be the only place in South Africa which has eradicated plague after it has been established. This success is attributed to the extermination of rats by the use of Danysz's virus.

Great Increase of Plague in India.

In the weeks ending March 5, 12 and 19 the deaths from plague in India numbered 28,919, 33,517, and 40,527 respectively—the latter two mortalities far exceeding any previously recorded. Since the disease appeared in 1896 the highest weekly mortality occurred for three weeks in April, 1903, when it amounted to 30,000.

DUBLIN LETTER.

The Health of Dublin.

The annual report of the Dublin Sanitary Association draws attention once again to the scandalous condition of the health of Dublin. Judged on theoretical grounds there would seem to be no reason why Dublin should not be an exceptionally healthy city. Lying between open country and open sea, easily drained and on dry soil, supplied with water of unquestionable purity, with its population largely suburban, it yet has the highest death rate of any city in Europe. At the present time, although we are unusually free from epidemic disease, our death rate is the same as that of Calcutta where bubonic plague is present. Curiously enough the rate of zymotic disease is, as a rule, low in Dublin, the chief mortality being due to tuberculosis and diseases of the respiratory system. One would expect that the health authorities would have made some move to cope with the fearful tuberculosis plague which decimates our population, but not a finger has been lifted by them. Anything that has been done has been accomplished by the energy of such voluntary bodies as the National Association for the Prevention of Tuberculosis, while the Dublin health committee sits dumb. No attempt is made to prohibit spitting, either in the streets or in public conveyances; no attempt is made to render tuberculosis a notifiable disease; none to provide public sanatoria or isolation hospitals for sufferers. Four years ago the lord lieutenant appointed a committee to inquire into the causes of the high death rate in Dublin. In its report various suggestions, obvious enough, were made to the public health committee. Not one of them has yet been carried out. Two years ago, smallpox was rampant in London, Liverpool, and Glasgow—all in daily communication with Dublin. No provision was made to meet its probable spread to this city, so that when one or two cases were imported they had to be treated in an ordinary fever hospital. Infection was there allowed to spread, and Dublin was barely saved from an epidemic. Calling for close attention also is the high rate of infant mortality. More than one-third of the deaths occurring annually are of children under five years of age, and of these the majority are uncertified. It seems hopeless to expect our authorities to stir themselves to any activity to promote the public health, and as long as the interests of publicans and slum owners are considered of paramount importance, Dublin will retain its pre-eminence as the most unhealthy city in the world where plague is not raging. About half the corporation of the city, from whom the public health committee is elected, are publicans. Our medical officer of health, I should mention, is a knight, a companion of the bath, and probably the best-known diner-out and story-teller in Dublin. He was two years ago awarded the Harben gold medal on account of his distinguished services to hygiene.

A Medical Provost for Trinity College.

The long delay in appointing a provost for Trinity College has been ended by the nomination of Dr. Anthony Traill. Although he never practiced medicine he holds medical degrees, and he is the first medical man who has ever held the post. Indeed, with the single exception of the famous Hely Hutchinson, who held office toward the close of the eighteenth century, he is the first layman to do so. Dr. Traill's appointment is taken as signifying the abandonment by the government of Lord Dunraven's university scheme, as he was its most violent opponent.

Correspondence.

Johnson's Early Sign of Pregnancy Observed in the Fundus.

BOULDER, COLO., April 14, 1904.

To the Editor:—Dr. H. L. E. Johnson mentions in THE JOURNAL, Feb. 20, 1904, the alternate changing of color, from violet to pink, shown in the vaginal cervix of the pregnant uterus as early as four weeks. An opportunity to observe this sign in the fundus uteri was given us a few weeks since. March 15, 1904, a woman, three and one-half months pregnant, presented herself at the University Hospital (Medical Department, University of Colorado), for relief from intestinal obstruction. Her condition was so grave that it was thought advisable to make an exploratory incision. The incision revealed a right parovarian cyst with twisted pedicle. During the removal of the cyst, the fundus uteri was in plain view and the delicate successions from a pale to a bright pink were truly beautiful. The alternations occurred exactly every sixty seconds. They were not a gradual shading from a pale to a bright pink or vice versa. The change in color began in the center of the fundus, passing outward in the form of a circle toward the periphery in a marked, clear-cut circular wave. The patient made an uneventful recovery without interruption of the pregnancy.

L. M. GIFFIN, M.D., and O. M. GILBERT, M.D.

College Credit for Medical Study.

NEW YORK CITY, April 13, 1904.

To the Editor:—In the first editorial in THE JOURNAL, April 9, on page 956, the Medical College of Cornell University is mentioned as giving a six-year course, at the end of which the A.B. and M.D. degrees can both be obtained. Kindly note that this is an error. The university, during the first four years of the existence of its medical department, did have such a course, but since 1902 the time required for obtaining the combined degrees has been extended to seven years. In spite of this extension of time more students every year have

considered it advantageous to take their A.B. degree as a precedent to entering the medical course. I trust that you will correct the statement you have made, as THE JOURNAL has such wide circulation. JOHN ROGERS, JR.,
Secretary Cornell University Medical College.

Lactagol—To Promote Lactation.

NEW YORK CITY, April 12, 1904.

To the Editor:—In THE JOURNAL, March 12, in the department of "Current Medical Literature," there is an abstract from an article in the *Berliner klinische Wochenschrift* on lactagol [page 744, abstract 80]. In reference thereto we call your attention to the fact that you make it appear that lactagol is a powdered product of cottonseed. We are just in receipt of a communication from Messrs. Pearson & Co. of Hamburg, the manufacturers of the preparation, in which we are requested to inform you that the preparation is an extract of cottonseed and not the cottonseed itself.

LEHN & FINK.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

LETTER HEADS.

It is not always possible to tell the character of a man by his letter head, but sometimes it is possible to make a pretty good guess. A physician from a western state writes his letters on paper, in the upper right hand corner of which appears this card:

> THE HABIT CURES, SURGERY, and special work. The Ultra Violet Rays. Betz Hot Air Apparatus, local and full body. Robertson Comminuter for nose, ear, throat and lung work. Alkaloidal and Specific Medicines — large supply. Careful diagnosis, up-to-date drugs and methods. United States Pension Examining Surgeon.

Marriages.

LEWIS J. DANIELS, M.D., to Miss Anna Jung, both of Milwaukee, April 20.

FOSTER F. POTTER, M.D., to Mrs. Grace E. Ranios, both of New York City, April 8.

FLETCHER K. WHITE, M.D., Sewickley, Pa., to Miss Anna B. Graff, at Duluth, Minn., April 7.

THOMAS P. DAVIS, M.D., Nashville, Tenn., to Miss Myrtle Bass of Linwood, Tenn., April 5.

ROY V. BAKETEL, M.D., Manchester, N. H., to Miss Helen Tenney of Methuen, Mass., April 6.

GEORGE S. BUBB, M.D., McKee's Rocks, Pa., to Miss Sara N. Brown, on Neville Island, Pa., April 6.

CHARLES W. COLE, M.D., Norton, Kan., to Miss Maud Alice Daggett of Phillipsburg, Kan., March 30.

AUSTIN FOX RIGGS, M.D., to Miss Alice, daughter of Dr. Charles McBurney of New York City, April 4.

R. QUARLES MCCLURE, M.D., Forrest, Texas, to Miss Fae McClelland of Mount Pleasant, Texas, April 7.

M. MARTHA MACVEAN, M.D., Nebraska City, to WILLIAM EDMONDS, M.D., of Erie, Pa., at Chicago, April 4.

THOMAS LITTLETON SAVIN, M.D., Baltimore, to JESSIE ELLA SWEET, M.D., of Pine Bluff, Ark., at Baltimore, April 6.

CHARLES W. KEEL, M.D., Newport News, Va., to Miss Virginia Lesueur, at New Canton Court House, Va., April 6.

JOSEPH D. CONDIT, M.D., New York City, to Miss Katherine Aylett Guernsey of Port Hope, Ont., in New York City, April 5.

Deaths.

Sarah **Fowler Stockwell, M.D.** University of Michigan, Ann Arbor, 1876, a member of the American Medical Association, the Indiana State Medical Association, and of the St. Joseph County Medical Society, one of the pioneer woman physicians of the west, died at her rooms in South Bend, Ind., April 2, from cancer, after an illness of several months, aged 62.

John I. Skelly, M.D. Detroit Medical College, 1869, a member of the American Medical Association, and a surgeon of repute, a member of the hospital corps in the Civil War, died at his home in Pekin, Ill., April 9, from apoplexy, aged 57. Tazewell County Medical Society, at a meeting held April 12, adopted resolutions of regret.

J. Howard Rabe, M.D. Jefferson Medical College, Philadelphia, 1894, of Clyde, Ohio, died at a hospital in Philadelphia, April 2, after an operation for the removal of gallstones, aged 37. At a meeting of the Sandusky County Medical Association, a committee was appointed to draft resolutions of eulogy and regret.

Josiah C. Donham, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1867, in 1889 representative to the state legislature and for the last four years superintendent of schools in Hebron, Maine, died at his home in that place, April 7, aged 66.

John P. Manker, M.D. Chattanooga (Tenn.) Medical College, 1894, instructor in physical diagnosis in that institution, died at his home in Chattanooga, April 9, from paralysis, after an invalidism of seven years, the result of a fall from a horse.

Cyrus Kindrick, M.D. Jefferson Medical College, Philadelphia, 1848, one of the organizers of the Maine Medical Association, died at his home in Litchfield Corner, Maine, where he had practiced for 52 years, April 4, aged 78.

Thomas S. Clark, M.D. Medical College of Ohio, Cincinnati, 1873, sometime president of Lewis County (Ky.) Board of Health, died at his home in Vanceburg, April 4, from paralysis, after a short illness, aged 55.

James H. Crabbs, M.D. Eclectic College of Medicine, Cincinnati, 1859; College of Physicians and Surgeons, Keokuk, Iowa, 1872, died at his home in Fremont, Neb., April 9, after an illness of two years, aged 77.

Clinton Joseph Schadt, M.D. University of Pennsylvania, Philadelphia, 1890, for eleven years a surgeon on transatlantic liners, died at his home near Egypt, Pa., April 5, from Bright's disease, aged 40.

Philip Bissell, M.D. College of Physicians and Surgeons, New York, 1902, a member of the house staff of the New York Hospital, died in that institution, April 10, from pneumonia, aged 27.

Weller Roos, M.D. Bellevue Hospital Medical College, New York, 1883, died at his home in Chenango Forks, N. Y., March 31, from consumption, after an illness of ten years, aged 50.

John E. Bradbury, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1884, died at his home in Rockland, Mass., from tuberculosis, after a lingering illness, April 7, aged 44.

Erastus P. Fairmans, M.D. College of Physicians and Surgeons, New York, 1854, a surgeon in the Army during the Civil War, died at his home in Hardwick, Vt., April 6, aged 74.

Francis M. Harris, M.D. Cincinnati College of Medicine and Surgery, 1863, died at his home in Vincennes, Ind., April 4, from cancer, after a long illness, aged 67.

Emanuel L. Howerter, M.D. University of Pennsylvania, Philadelphia, 1889, of Kempton, Pa., died recently at the home of his parents in Allentown, Pa.

Peter S. Duff, M.D. Homeopathic Hospital College, Cleveland, 1870, was found dead at his home in Herman Station, near Butler, Pa., April 2, aged 80.

James S. Dennison, M.D. Willamette University, Salem, Ore., 1872, formerly of Pomeroy, Wash., died at Walla Walla, Wash., April 5, from paresis, aged 54.

Cyrus R. Stuckslager, M.D., surgeon during the Civil War, died suddenly at his home in McKeesport, Pa., from heart disease, April 7, aged 75.

John M. Teal, M.D. Physio-Medical College, Cincinnati, 1862, died suddenly at his home in Findlay, Ohio, from heart disease, April 8, aged 73.

Romain C. Barless, M.D. Jefferson Medical College, Philadelphia, died at his home in Rose, N. Y., April 3, after a short illness, aged 70.

Sylvanus E. Parker, M.D. University of Buffalo, 1877, died suddenly at his home in Naples, N. Y., April 4, from heart disease, aged 53.

Thomas J. Jordan, M.D. Missouri Medical College, St. Louis, died at his home in Hickory Hill, Mo., April 7, from apoplexy, aged 42.

Augustus A. Guy, M.D. Albany (N. Y.) Medical College, 1893, died at his home in Harpursville, N. Y., March 30, aged 44.

J. H. Moran, M.D., died suddenly at his home in Pueblo, Colo., April 2, from heart disease, aged 55.

William J. Maercklein, M.D., died recently at his home in Milwaukee.

Miscellany.

MALPRACTICE DEFENSE AND ITS SUCCESS.

The Result of the Medical Defense Work of the New York State Medical Association.

"The proof of the pudding is in the eating," and "An ounce of practice is worth a cartload of theory," are proverbs that apply to the question of medical defense. Until the last year or two it was a theory whether medical defense was a function that can be performed by the profession itself in its organized capacity. Now practical experience has demonstrated its practicability. The Chicago Medical Society has given its members the protection with such satisfactory results that the council of the Illinois State Medical Association has decided to recommend that it be taken up by the state body. We hope shortly to give a report of the work done in this line by the Chicago Medical Society. At this time we desire to call attention to the fact that among the other work of practical value to its members, taken up by the New York State Medical Association, is that of medical defense, and the remarkable success of this work, as shown by the report covering the fiscal year now closed, is worth more than a passing notice. The following abstract of this report shows how absolutely successful this defense has been, and adds more proof of the contention that most of such cases were purely blackmailing and strike cases.

1. Philip Kronenberger brought an action against Dr. McC. of New York, by an attorney named Robert Kuhnert. The physician brought a counter claim as part of the defense for services. The result has been that up to the present the complainant has not made a move. This is clearly an attempt to defeat the physician's bill, which is sure to fail.

2. An action brought by Dr. J. of New York City against one Harvey to recover on a bill. This action was originally in the hands of a collector, and when the physician threatened suit the person attended threatened to sue for malpractice. Counsel for the association was brought into the case, advised an immediate suit for the bill, and the defendant then set up a counter-claim of malpractice; both were tried and the physician collected his bill.

3. An action brought against Dr. von D. of the Bronx, in which counsel of the association acted as counsel only, the attorney of record having already put in an answer before the application for defense was made. The result was absolutely satisfactory in this case.

4. William Naeher of Buffalo brought an action against Dr. G. of Buffalo; the summons was served in April, 1903; it was recently discovered that the plaintiff had left the state, and counsel went to Buffalo and compelled the discontinuance of the action. This was clearly an action brought for strike, but, of course, failed.

5. Maurice S. Casey of New York City brought an action against Dr. S.; another physician was joined in this action also, the plaintiff charging that both were jointly liable for the death of an infant. This action was brought by Lawyer Oppenheim. This action has never been put on the calendar—doubtless a strike. If the case is ever brought to trial it is hopeless for the plaintiff.

6. Wood, as administrator, brought an action against Dr. W., a well-known surgeon of New York City, in Queens County. The case was tried before Judge Marean and a jury in Long Island City, who returned a verdict for the defendant.

7. An action was threatened against Dr. M. of New York City, a well-known surgeon, in which malpractice was charged. The surgeon promptly turned the case over to the counsel, with instructions to the plaintiff to send all future communications to him. There the case is ended.

8. Another threatened action was that charging Dr. De W. of New York City with malpractice. He has turned over the papers, signed the necessary agreement with the result that nothing has yet been done in the direction of a suit.

9. There are two other actions now pending at Rome and Utica, respectively against Dr. C. of Sylvan Beach and Dr. D. of Boonville, N. Y., one of which will be tried, the other doubtless will be abandoned.

10. This case is that of the Sommervilles, husband and wife, against Dr. Van L., brought by Messrs. Flynn & Kohn, attorneys of Nassau Street, in which it is charged that the damages arose by reason of the defendant going on his vacation. These cases have never been put on the calendar, and were doubtless brought because the physician sued had just purchased a house, and the plaintiff, relying on the rumored timidity of medical men, hoped for a settlement.

None of these actions could have been defended individually for less than $250, many of them for not less than $1,000, showing what a great saving and benefit generally this malpractice defense has become.

Abortion of Acute Tonsillitis with Quinin.—Nine years of experience has convinced a Hungarian confrère, Dr. Szentgyörgyi of Budapest, of the great value of quinin for aborting acute tonsillitis. Its action has proved as specific as in malaria. His communication is quoted in detail in the *Semaine Médicale*, xxiv, 5, 1904. The quinin, he states, must be given for the purpose in two doses of 7.5 grains each, with a half-hour interval, and taken about 7 p. m. Four or five hours afterward there follows an actual crisis as in pneumonia, with sweating and by the next evening all the local symptoms have disappeared. He adds that this specific action is absent in case of scarlet fever or diphtheria, and the quinin may thus aid in the differentiation of these affections.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Medical Examiners of Iowa, May 2-3 at Sioux City. Secretary, J. F. Kennedy, M.D., Des Moines.

Illinois State Board of Health, Chicago, April 25-27, and East St. Louis, May 4-6. Secretary, J. A. Egan, Springfield.

Nevada State Board of Medical Examiners, Carson City, May 2. Secretary, S. L. Lee, M.D., Carson City.

Louisiana State Board of Medical Examiners, Tulane Medical College, New Orleans, May 6-7. Secretary, F. A. Larue, M.D., New Orleans.

Mississippi State Board of Health, Jackson, May 10-11. Secretary, J. F. Hunter, M.D., Jackson.

State Board of Medical Examiners of South Carolina, State House, Columbia, May 17. Secretary, S. C. Baker, Sumter.

University of the State of New York, State Medical, Homeopathic and Eclectic Boards, New York, Albany, Buffalo and Syracuse, May 17-20.

Board of Medical Examiners of the State of North Carolina, Raleigh, May 18. Secretary, G. W. Pressly, Charlotte.

Maine Report.—Dr. A. K. P. Meserve, secretary of the Maine Board of Registration of Medicine, reports that at the examination held at Portland, March 23, 1904, 100 questions were asked on 10 subjects, and a percentage of 75 was required. Of the 10 who were examined, 9 passed and 1 withdrew. The latter was a graduate of Syracuse University Medical Department in 1884. The successful candidates were as follows:

College.	Year Grad.	Per Cent.
Laval University, Montreal, (1897) 85.3, (1892) 87.08, (1901) 83. (1902) 85.8.		
Harvard Medical School	(1903)	90.7
Jefferson Medical College, Philadelphia	(1903)	89.8
Medical School of Maine	(1894)	78.5
Royal Coll. of P. and S., Edinburgh	(1903)	86.3
University of Vermont	(1902)	90.2

Nebraska Report.—Dr. Geo. H. Brush, Beatrice, secretary of the Nebraska State Board of Health, reports that at the written examination held at Lincoln, Feb. 10 and 11, 1904, 80 questions were asked on 8 subjects, and a percentage of 75 was required. The two who were examined passed.

College.	Year Grad.	Per Cent.
Western Medical College, London, Ont	(1901)	80.25
University of London, England	(1898)	94.75

Illinois Report.—Dr. J. A. Egan, Springfield, secretary of the State Board of Health of Illinois, reports that at the written examination held at Chicago, Jan. 14 to 16, 1904, 110 questions

were asked on 11 subjects, and a percentage of 75 was required. Of the 43 who were examined 34 passed and 9 failed. They were graduates of the following schools, with grades as follows:

College.	Year Grad.	Per Cent.
PASSED.		
Rush Medical College, Chicago. (1880) 84, (1902) 88, 86, (1903) 89, 86, 84, 86, 83, 92, 85, 91, 88, 90, 87, 82, 89, 84, 85.		
American Med. Miss. Coll., Chicago	(1901)	85
Hahnemann Medical College, Chicago	(1900) 82, (1903)	85
Harvard Medical School, Boston	(1880)	79
Harvey Medical College, Chicago	(1903)	79
Chicago Homeopathic Medical College	(1903)	85
Illinois Medical College, Chicago	(1904)	85
Louisville Medical College	(1903)	77
Marion Sims-Beaumont Medical College, St. Louis	(1902)	82
Missouri Medical College, St. Louis	(1896)	82
Northwestern University Medical School, Chicago	(1903)	92
National Medical University, Chicago	(1903)	81
Royal University, Naples, Italy	(1898)	83
University of Iowa, Iowa City	(1885)	79
University of Sciences, Hungary	(1901)	85
University of Tennessee, Nashville	(1891)	83
FAILED.		
Illinois Medical College, Chicago	(1900) 69, (1904)	73, 69
Coll. of Med. and Surg. (Physiomedical), Chicago	(1903)	71
National Med. University, Chicago	(1903) 58, (1904)	70
College of Physicians and Surgeons, St. Louis	(1895)	71
Rush Medical College, Chicago	(1886)	67
Royal University, Naples, Italy	(1902)	66

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fifth Annual Session, at Atlantic City.

To the Members of the American Medical Association, and to Constituent State Associations:

The next annual session of the American Medical Association will be held at Atlantic City, New Jersey, on Tuesday, Wednesday, Thursday and Friday, June 7, 8, 9 and 10, 1904. The first general meeting, which constitutes the opening exercises of the scientific functions of the Association, will be held at 10 a. m., Tuesday, June 7.

The Registration Department will be open from 8 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 6, 7, 8 and 9, and from 9 to 11 a. m. on Friday, June 10.

NEW MEMBERS.

Those who join the Association at its annual session must present certificates of membership in good standing in their state association or in one of its affiliated branches.

THE HOUSE OF DELEGATES.

The House of Delegates of the American Medical Association will convene at the High School Building, Atlantic City, New Jersey, at 10 a. m., Monday, June 6, 1904. Each constituent state and territorial association is entitled to one representative for each 500 of its resident regular members, or fraction thereof. "State associations or societies in counting members for a basis of delegate representation in this House shall count only members in good standing, who pay regular dues to the state association, either directly or indirectly through county societies."

"Members of the House of Delegates shall be elected for a term of two years, and those state and territorial associations entitled to more than one representative are requested so to arrange such elections that one-half of their delegates, as near as may be, shall be elected each year." (Chap. III, Sec. 4, By-Laws.)

GEORGE H. SIMMONS,
Secretary of the American Medical Association.

Clinics in Connection with Atlantic City Session.

The Colleges and Hospitals in Philadelphia have arranged a schedule of clinics and demonstrations which will be complimentary to the members of the American Medical Association. These will be held the week before and the week following the fifty-fifth annual session, June 7 to 10, at Atlantic City. A full schedule will be published soon. Dr. DeForest Willard is chairman of the committee in charge.

Atlantic City Hotels.

For a list of the hotels at Atlantic City and their prices, see THE JOURNAL, April 2, page 912.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending April 16, 1904:

Miller, Reuben B., asst.-surgeon, leave granted in S. O. 66, War Department, to take effect on being relieved from Army Medical School, instead of June 1, 1904.

Moseley, Edward B., deputy surgeon general, leave of absence extended three months and granted permission to go beyond the sea.

Powell, Wm. A., asst.-surgeon, relieved from duty as surgeon on transport *Thomas*, to take effect on arrival of transport at Manila, and will then report to commanding general, Philippine Division for assignment to duty.

Mabee, James I., asst.-surgeon, reports change of status "en route to station" to absent on thirty days' leave.

White, J. Samuel, contract surgeon, granted leave of absence for one month, about April 15.

Fisher, William C., contract dental surgeon, ordered from Fort Brady, Mich., to duty at Columbus Barracks, Ohio.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending April 16, 1904:

Parker, E. G., P. A. surgeon, detached from the *Adams* and ordered to the *Wheeling*.

Odell, H. E., P. A. surgeon, detached from the *Wheeling* and ordered to the *Adams*.

DeVries, J. C., A. A. surgeon, resignation accepted, to take effect April 11, 1904.

Green, E. H., medical inspector, detached from duty as fleet surgeon of the Asiatic Fleet and ordered home and to await orders.

Drake, N. H., surgeon, detached from the *Maine* and ordered to the *Lancaster*.

Kite, I. W., surgeon, detached from the Navy Yard, Norfolk, and ordered to the *Maine*.

Woodward, J. S., asst.-surgeon, detached from the Naval Proving Grounds, Indian Head, Md., and ordered to the *Brooklyn*.

Gill, J. E., asst.-surgeon, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to the *Kearsarge*.

Lumsden, G. P., surgeon, detached from the Naval Recruiting Station, Chicago, and ordered to the Navy Yard, Norfolk, Va.

Biddle, C., surgeon, detached from the *Lancaster* and ordered to the Asiaatic Station, via *Solace*, for fleet surgeon on board the flagship.

Kennedy, J. T., P. A. surgeon, detached from the Naval Academy and ordered to Washington, D. C., for duty to accompany Marine detachment to the Louisiana Purchase Exposition, St. Louis.

Wise, A. H., A. A. surgeon, detached from the Naval Hospital, Naval Home, Philadelphia, and ordered to the Naval and Marine Rendz., Chicago.

McCullough, F. E., P. A. surgeon, ordered to the *Wisconsin*.

Smith, C. G., asst.-surgeon, detached from the *Newport* and ordered home to await orders.

Campbell, F. E., asst.-surgeon, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to the *Newport*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended April 14, 1904:

Greene, J. B., P. A. surgeon, granted extension of leave of absence, on account of sickness, for sixty days from Feb. 25, 1904.

Warren, B. S., asst.-surgeon, granted extension of leave of absence for one day.

Ward, W. K., asst.-surgeon, granted extension of leave of absence for four days from April 7, 1904.

Stiles, C. W., chief of Division of Zoology, detailed to attend meeting of Medical Association of Mississippi at Jackson, Miss., April 20-22, 1904.

Gregory, G. A., A. A. surgeon, granted leave of absence for three days from April 12, 1904.

Jackson, J. M., A. A. surgeon, granted leave of absence for five days from April 20, 1904.

Rodman, J. C., A. A. surgeon, granted six days' leave of absence from April 12, 1904.

BOARD CONVENED.

Board convened at Stapleton, N. Y., April 18, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon Preston H. Bailhache, chairman; P. A. Surgeon A. C. Smith, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from April 9 to April 15, 1904:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 26-April 2, 2 cases; San Francisco, March 28-April 3, 1 case.
Illinois: April 2-9, Chicago, 8 cases, 1 death; Danville, 4 cases.
Iowa: Des Moines, April 2-9, 1 case.
Louisiana: New Orleans, April 2-9, 2 cases, 1 case imported.
Maryland: Baltimore, April 2-9, 1 case.
Michigan: April 2-9, Detroit, 1 case; Grand Rapids, 2 cases.
Missouri: St. Louis, April 2-9, 11 cases.
New Hampshire: Manchester, April 2-9, 1 case.
New Jersey: April 2-9, Camden, 2 cases; Trenton, 2 cases.
New York: Buffalo, April 2-9, 2 cases.
Ohio: April 1-8, Cincinnati, 3 cases; Cleveland, 3 cases; Dayton, April 2-9, 4 cases, 1 death.

Pennsylvania: April 2-9, Johnstown, 1 case; Philadelphia, 20 cases, 5 deaths; Pittsburg, 5 cases, 1 death, 1 case imported.
South Carolina: Charleston, April 2-9, 4 cases.
Tennessee: Nashville, April 2-9, 2 cases.
Wisconsin: Milwaukee, April 2-9, 2 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Feb. 6-13, 3 cases.
Argentina: Buenos Ayres, Feb. 1-29, 58 deaths.
Austria: Prague, March 12-19, 1 case.
Brazil: Rio de Janeiro, March 6-13, 45 cases, 30 deaths.
Canada: Winnepeg, March 26 April 2, 4 cases.
China: Hongkong, Feb. 21-28, 2 deaths; Shanghai, Feb. 27-March 5, 6 deaths.
Colombia: Barranquilla, March 21-27, 1 death.
France: Paris, March 19-26, 16 cases, 1 death.
Great Britain: Dundee, March 12-19, 4 cases; March 19-26, Edinburgh, 5 cases, 2 deaths; Leith, 10 cases, 1 death; London, 54 cases (erroneously reported April 9 as 84); Manchester, 12 cases; Newcastle-on-Tyne, 3 cases; Nottingham, 11 cases, 1 death; South Shields, 1 death; Glasgow, March 25 April 1, 18 cases, 2 deaths.
India: Karachi, March 6-13, 14 cases, 3 deaths.
Japan: Nagasaki Ken, to March 8, 27 cases.
Mexico: Vera Cruz, April 2-9, 1 case.
Russia: St. Petersburg, March 12-19, 9 cases, 5 deaths.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Feb. 13-20, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 6-13, 6 cases, 1 death.
Ecuador: Guayaquil, March 12-19, 4 deaths.
Mexico: Vera Cruz, April 2-9, 1 case.

CHOLERA—FOREIGN.

India: Madras, March 5-11, 2 deaths.
Turkey in Asia: Basra, March 26-31, 5 cases, 7 deaths.

PLAGUE.

Africa: Cape Colony, March 5-12, 6 cases, 3 deaths; Transvaal, Johannesburg, March 20, 8 deaths.
Australia: Sydney, March 10, 1 case.
Brazil: Rio de Janeiro, March 6-13, 4 cases, 1 death.
Egypt: Port Said, March 18, 1 case.
Formosa: Feb. 29-March 6, 96 cases, 49 deaths.
Mauritius: March 3-10, 3 cases.

Medical Organization.

Indiana.

CLARK COUNTY MEDICAL SOCIETY.—Physicians of the county met at Jeffersonville, April 7, and organized a medical society on the standard plan, and elected Dr. David C. Peyton, Jeffersonville, president; Dr. Edward L. Elrod, Henryville, vice-president; Dr. Claude C. Crum, Jeffersonville, secretary and treasurer; Drs. W. Marshall Varble, Harry C. Sharp and William H. Sheets, Jeffersonville, censors, and Dr. Cadwallader Jones, Jeffersonville, delegate to the State Medical Association.

Louisiana.

WEBSTER PARISH MEDICAL SOCIETY.—Physicians of the parish met at Minden, recently, and with the assistance of Dr. Norwood K. Vance, Shreveport, councilor for the Fourth District, organized a medical society on the standard plan with the following officers: Dr. Risdon W. Smith, Dubberly, president; Dr. R. C. Thompkins, vice-president; Dr. Shelly F. Martin, Minden, secretary, and Dr. Thomas J. Vance, Minden, treasurer.

Maryland.

HOWARD COUNTY MEDICAL ASSOCIATION.—This association was reorganized on the standard plan at Ellicott City, April 5. The following officers were elected: Dr. William R. Eareckson, Elkridge, president; Dr. Thomas W. Linthicum, Savage, vice-president; Dr. William B. Gambrill, Alberton, secretary-treasurer, and Drs. John W. Lacy, Lisbon, Samuel J. Fort, Ellicott City, and Bernard J. Byrne, Ellicott City, censors. All the counties of Maryland now have societies.

New Jersey.

ESSEX COUNTY MEDICAL SOCIETY.—By vote of the Essex District Medical Society at its meeting in Newark, April 5, the society was reorganized on the standard plan with the following officers: President, Dr. Richard C. Newton, Montclair; vice-president, Dr. William S. Disbrow, Newark; secretary, Dr. Archibald Mercer, Newark, and treasurer, Dr. Charles D. Bennett, Newark.

Ohio.

HURON COUNTY MEDICAL SOCIETY.—Dr. Thomas C. Martin, councilor for the Fifth District, met with the physicians of the county at Norwalk, and organized a medical society on the standard plan. Dr. Samuel A. Orwig, Bellevue, was elected temporary chairman, and Dr. Hugh L. Judge, Norwalk, secretary. The election of permanent officers was deferred until the next meeting, April 21.

Texas.

BRAZOS COUNTY MEDICAL ASSOCIATION.—On April 7, Dr. Sam R. Burroughs, Buffalo, councilor for the Eleventh (Brazos Valley) District, met the physicians of the county at Bryan and organized a medical association on the standard plan, with the following officers: Dr. James M. Nicks, Stone City, president; Dr. George W. Emory, Bryan, vice-president; Dr. Paul M. Raysor, Bryan, secretary and treasurer; Drs. A. L. Mondrick, Bryan, Henry L. Fountain, Bryan, and R. H. Wilson, Kurten, censors; Dr. A. L. Mondrick, Bryan, delegate to the State Medical Association, and Dr. Paul M. Raysor, Bryan, alternate.

Washington.

CHELAN COUNTY MEDICAL ASSOCIATION.—This association met for organization on the standard plan at Leavenworth, April 1. Dr. W. M. McCoy, Leavenworth, was elected president, and Dr. H. A. Saunders, secretary. The other officers will be elected at a meeting to be held in Wenatchee, May 5.

Wisconsin.

ORGANIZATION.—Up to April 1, 57 out of the 71 counties in the state had been organized on the standard plan.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, N. J., JUNE 7-10.
Texas State Medical Association, Austin, April 26.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 26-28.
Arizona Medical Association, Tucson, April 27-28.
Arkansas Medical Society, Texarkana, May 3-5.
Louisiana State Medical Society, Lafayette, May 3-5.
Nebraska State Medical Society, Omaha, May 3-5.
Kansas Medical Society, Topeka, May 5-7.
Utah State Medical Society, Ogden, May 10-11.
Association of American Physicians, Washington, D. C., May 10-11.
Oklahoma Territory Medical Society, Oklahoma City, May 11.
Illinois State Medical Society, Bloomington, May 17-19.
State Medical Association of Missouri, St. Louis, May 17-19.
Montana State Medical Association, Butte, May 18.
Indiana State Medical Association, Indianapolis, May 19-20.
Iowa State Medical Society, Des Moines, May 18-20.
New Hampshire Medical Society, Concord, May 19-20.
North Dakota State Medical Society, Fargo, May 21-22.
American Gynecological Society, Boston, Mass., May 24.
Connecticut Medical Society, New Haven, May 25-26.
Michigan State Medical Society, Grand Rapids, May 25-27.
American Medico-Psychological Association, St. Louis, May 30-June 3.
Medical Society of the State of North Carolina, Raleigh, June 1.
South Dakota State Medical Association, Redfield, June 1-2.
Maine Medical Association, Portland, June 1-3.
Minnesota State Medical Society, Minneapolis, June 2-3.
American Dermatological Association, Niagara Falls, June 2-4.
American Therapeutic Society, New York City, June 2-4.
Rhode Island Medical Society, Providence, June 3.
Indian Territory Medical Association, Holdenville, June 3-5.
American Academy of Medicine, Atlantic City, June 4-6.
Medical Society of New Jersey, Atlantic City, June 4-7.
American Gastro-Enterological Association, Atlantic City, June 6.
Massachusetts Medical Society, Boston, June 7-8.
Association of American Medical Colleges, Atlantic City, June 7.
American Orthopedic Association, Atlantic City, June 7-9.
American Urological Association, Atlantic City, June 10-11.
Medical Society of Delaware, Lewes, June 14.
Wisconsin State Medical Society, Milwaukee, June 22.

TENNESSEE STATE MEDICAL ASSOCIATION.

Seventy-first Annual Session, held at Chattanooga, April 12 to 14, 1904.

Under the presidency of Dr. I. A. McSwain of Paris.

Addresses of welcome were delivered by Hon. A. W. Chambliss, mayor of Chattanooga, and by Dr. J. R. Rathmell.

The response to these addresses was made by Dr. C. A. Abernathy of Pulaski.

Dr. J. N. McCormack of Bowling Green, Ky., delivered an admirable address on organization. His remarks created a favorable impression. He furnished the secretaries of the county medical societies some valuable pointers relative to this work.

The House of Delegates transacted the business brought before it expeditiously. It met promptly one hour in advance of the scientific sessions, thus enabling the members of the house to hear all the papers that were read and to take part in the discussions. The members agreed that this method of transacting business so as not to interfere with the scientific work was an admirable one.

The address of the president was on the subject, "The Two Sciences—Medicine and Humanity." This will be published in THE JOURNAL.

Officers.

The following officers were elected for the ensuing year: President, Dr. Paul F. Eve, Nashville; vice-presidents, Drs.

E. H. Jones, Murphreesboro; G. O. Bicknell, Madisonville, and C. E. Tyree, Trenton; secretary, Dr. Deering J. Roberts, Nashville; treasurer, Dr. W. C. Bilbro, Murphreesboro.

The association decided to meet in Nashville, April 11 to 13, 1905.

(To be continued.)

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Meeting of the Section on Clinical Medicine and Surgery, held March 18, 1904.

DISCUSSION ON PNEUMONIA.

Some Recent City Statistics.

DR. J. HALL PLEASANTS said 105,971 persons died from the disease in the United States in 1900. The high death rate this winter is a wave on the pneumonia tide which set in several decades ago, and has continued steadily to rise. If anything like the present rate of increase is maintained in the death rate and if the consumption rate continues to fall or even remains stationary, the next census will show pneumonia established as the principal cause of death in the United States. The remarkable comparative rate of increase is shown by a comparison of the census figures of 1890 and 1900 of consumption and pneumonia. Pneumonia deaths, 1890, 76,496; 1900, 105,971; consumption deaths, 1890, 102,188; 1900, 109,750. In other words, in 1890 somewhat over 9 per cent. of all deaths were due to pneumonia, in 1900 over 10.5 per cent.; in the same period the mortality from consumption decreased from 12.23 per cent. to 10.99 per cent. Comparing city with country, the census of 1900 shows for pneumonia mortality per 100,000 inhabitants of cities, 233.1; for rural districts, 135.9; for consumption, cities, 204.8; for rural districts, 134.1. The mortality from pneumonia among negroes is 349 per 100,000, and among whites 184.8. Whites of foreign birth were shown to be much more susceptible to pneumonia than those of American birth. These statistics apply to both lobar and lobular pneumonia.

The statistics for Baltimore were next given for the past 50 years. A chart was exhibited showing that from about 35 deaths per 100,000 in 1850 from pneumonia, the rate had increased by 1875 to 149, and steadily thereafter until in 1903 it reached 206. Particularly high waves of mortality were seen in 1890 and 1900 due to epidemics of influenza; the mortality in 1900 reached about 253. The figures for the present season, so far, show 624 deaths, against 584 for the same period of last year, not such an alarming increase as was to be expected. During the present season, so far, 494 deaths have been reported from consumption. The percentage, therefore, of pneumonia to all deaths in this period is 16.5, and of consumption 13.1. The pneumonia mortality reached its climax with the week ending March 5, when 75 deaths were reported in a total of 302. The figures for the past fortnight are less alarming, and it is improbable that the death rate will reach the high-water mark of 1900. Various explanations of the recent high pneumonia death rate in Baltimore were discussed. Some thought it due to the fire, but the increase did not reach its maximum for three weeks after that, and, moreover, a similar increase is widespread over the country. Climatic conditions are probably the important factors. For only one year could the death rate from pneumonia among negroes be given. Of the 1,101 deaths from pneumonia in 1903, there were 726 among the whites and 375 among the negroes. The negro population of the city constitutes from one-sixth to one-seventh of the whole, and their general death rate is more than twice that of the whites.

Bacteriology, Serum Therapy and Immunity.

DR. WILLIAM H. WELCH said that the present stage of progress did not hold out any hope of a protective antitoxin owing to the low vitality of the pneumococcus in artificial inoculations. It must be confessed that little had been learned from the discovery of the pneumococcus that had aided the diagnosis or treatment, and there was absolutely nothing that could be called a specific in the disease. The germ is in a large percentage a normal occupant of the healthy human throat. Alcoholism and other debilitating conditions lower the power of resistance of the individual and increase the susceptibility to the disease. The idea is growing in Chicago, New York, and other places that the disease is propagated by contagion, as by the consumption sputa and the prevalence of the disease in a number of cases in one house or neighborhood speak for this idea. While this mode of spread must be recognized as a possibility, Dr. Welch thought that the majority of cases are due to the development or relatively increased virulence of the organism in the body.

Experience at the Johns Hopkins Hospital.

DR. WILLIAM OSLER said that after 26 years of hospital practice he found pneumonia everywhere the same disease as it was at the beginning of his career. Variations are seen, but the mortality in all large series of cases is about 25 or 26 per cent. Dr. Osler spoke of the training given his students in the hospital, and said that he believed that if one trained a student properly in pneumonia and typhoid fever, as the Bible suggests, all other things would be added unto him.

Treatment.

DR. I. E. ATKINSON concluded the discussion. There is no specific. He emphasized the need of sleep to the patient, advising the repeated injection of morphin, if necessary. The ice-bag to the affected side may suffice in milder cases. The warm bath gradually cooled is highly efficacious in children. He advised blood-letting, not in the beginning, but later to relieve extreme dilation of the heart. Alcohol and large doses of strychnin are called for for weak heart. Too great care to keep the patient from catching cold is harmful, and too much covering is undesirable. Oxygen is useful, but should be begun early. Saline injections are also useful by diuretic action, carrying off the toxin. The above treatment was for the severe cases. Overmedication is dangerous. One can generally foresee severity in a case and direct his measures accordingly. All expectorants are harmful.

MEDICAL SOCIETY OF THE CITY AND COUNTY OF DENVER.

Regular Meeting, held April 5, 1904.

Dr. W. J. Rothwell in the Chair.

Symposium on Medical Laws.

HON. I. B. MELVILLE, assistant attorney general of Colorado, discussed the relations of osteopathy to the medical laws of the state. He pointed out that the constitutional provisions protecting the freedom of the individual in the enjoyment of his religious beliefs did not extend to any practice that would injure his neighbors, or militate against the general welfare. He cited the mormon church and the practice of polygamy. In the same way, while a man may practice whatever system of medicine he may prefer, and while people of mature minds may choose any system, such practice must be carried on under restrictions that will prevent harm to others or to the community at large. Protection must also be given by the state to the immature and helpless. It is with this end in view that the general police powers of the state permit laws requiring a certain standard of qualification for those engaging in the practice of medicine. The osteopaths, while proclaiming in public and in the lobbies of the legislature that the medical laws were especially aimed at them, when proceeded against for the illegal practice of medicine, had set up the claim that the practice of medicine consisted entirely of the giving of drugs; and that, therefore, medical laws did not apply to them at all, because they gave no drugs. This contention had received some support in the lower courts, but it was opposed by the bulk of decisions in other states, and by two decisions that had been rendered by the Colorado Supreme Court with reference to the medical practice act of Colorado.

In the case of Mrs. Harding, an electropath, who undertook to practice after failing to obtain a license of the State Board of Medical Examiners, the lower court ruled that the medical practice act prohibited her from engaging in her peculiar system of practice without such license; and the supreme court upheld this decision. In the other case a certain Brown assumed the

title of M.D., was convicted of illegal practice, and the decision of the lower court affirmed.

Mr. Melville pointed out how the recent verdict against the State Board of Medical Examiners and in favor of an osteopath had been reached. Dr. Van Meter had consulted several leading lawyers who had agreed that "Dr." Bass was violating the medical law. He then took the matter to the district attorney, who concurred in this view, had information drawn, and commenced proceedings. These were quashed by the judge before whom the matter was brought. Then Dr. Bass sued Dr. Van Meter and the State Board of Examiners for damages for malicious prosecution. Although the law and universal practice everywhere protect a citizen from any such suit on account of actions brought through the public prosecutor, Judge Millins ruled that the board of examiners were liable for damages on this account. It had been hoped that through this case a ruling of the Supreme Court might be obtained, defining the relation of the medical practice laws of Colorado to the practice of osteopathy. But the trial in question was so full of errors that the verdict was likely to be set aside without this important point being touched on.

HON. H. E. KELLEY, counselor for the Colorado Medical Legislative League, spoke of some legal experience bearing on the need of organization of the medical profession. The Colorado Bar Association, although it did not include by any means all the lawyers in the state, nor have the support of any law, was a body of such standing, force and activity, that it practically compelled honesty and decency on the part of all who would practice law in Colorado. In regard to the conduct of a legal case, there would be as many opinions as there were lawyers. Some yielding was always necessary. To get any efficient medical law, individual ideas and preferences must be sacrificed. All must agree on the common ground of requiring a searching scientific education of all who would practice medicine. Those best fitted should be chosen to consider the situation, and the most practical law to meet it; and then the loyal support of the whole profession should be given to this measure, and to aid those working for it.

He pointed out that when the Sanford bill was before the governor last year, prominent and generally respected physicians had advised him to veto it. There was lack of unity on the part of the medical profession. The first need was to instruct and convert some of the physicians. Then the subject must be explained to the public. When this was done there would be no difficulty in getting support for such measures. In spite of all that is said, the profession is held by the general public responsible for the public health. The medical profession had plenty of influence, if it would unite and use it.

DR. W. W. GRANT, president of the Colorado Legislative League, wished to point out that there were certain things the profession of Colorado were not responsible for. They were not responsible for Judge Mullins, or for the two governors that had vetoed two excellent medical laws. He referred to the Colorado plan of organization and the unanimous approval of it by the National Council of Medical Legislation. He read an editorial from THE JOURNAL of the American Medical Association, supporting that plan. The medical profession must fight unqualified practitioners. No self-respecting medical man could vote for one who would degrade our profession to the standpoint of the quacks.

DR. EDWARD JACKSON said that the effort to define the practice of medicine was an effort to prevent the taking of money under false pretense. Through the work of an educated body of practitioners the words "doctor of medicine" and "medical practice" had come to have a certain significance. To prevent the application of these words to those who did not possess these qualifications was an effort to check misrepresentation and falsehood. The first steps of the quack were to assume the title of "Dr." and to give out that he was engaged in the same kind of medical practice. No one, physician or layman, could afford to assist this form of misrepresentation and falsehood.

DR. S. D. VAN METER called the attention the committee appointed by the National Legislative Council to draft a form of medical practice act which should serve as a model in all the different states, and which, with only such modifications as were necessary to meet the different state constitutions, should be recommended for universal adoption. He showed a certificate of death by tuberculosis signed by an osteopath, that had been presented at the office of the Denver health commissioner. He wished to point out that the fight was not against the osteopaths especially, but against all those who, professing some new school or cult of medicine, sought through it to evade the laws regulating the practice of medicine. There were sixteen such cults or "pathies" now in existence in this country, and others were liable to spring up at any time. The fight was not against osteopaths, but against any "paths."

THE JOURNAL presents below the constitution and by-laws of the league that is referred to above:

CONSTITUTION AND BY-LAWS OF THE COLORADO MEDICAL LEGISLATIVE LEAGUE.

ARTICLE I.

The name and title of the organization shall be the Colorado Medical Legislative League.

ARTICLE II.

The purpose of this league shall be to form a non-sectarian body through which the united medical profession of the state of Colorado may succeed in improving and in enforcing the medical statutes.

ARTICLE III.

SECTION 1.—This league shall consist of active members, honorary members and guests.

SEC. 2.—The requirements for membership in this league shall be limited only to an avowal of a desire to assist in the promulgation of the purposes of the organization and the payment of the annual dues.

SEC. 3.—Honorary membership may be conferred by a vote of two-thirds of the members present at any regular meeting.

ARTICLE IV.

SECTION 1.—The league shall hold an annual meeting in Denver, which shall be open to all registered and honorary members and guests.

SEC. 2.—The time for holding each annual session shall be fixed by the executive council.

ARTICLE V.

SECTION 1.—The officers of this league shall be a president, two vice-presidents, a secretary-treasurer and a counselor.

SEC. 2.—The officers shall be elected for a term of two years.

SEC. 3.—The five officers of the league shall be known as the executive council, which shall meet from time to time at the call of the secretary, for the transaction of business.

SEC. 4.—The chairmen of the respective committees on legislation from the different state societies shall, as far as practicable, be members of the council, and at all times each school of medicine must be represented.

ARTICLE VI.

The funds for meeting the expenses of this league shall be derived from the annual dues of its members and by voluntary contribution.

ARTICLE VII.

SECTION 1.—All elections shall be by secret ballot and the majority of the votes cast shall be necessary to elect.

SEC. 2.—In balloting for any officer, if on the first ballot no one receives a majority of the votes cast, the name receiving the smallest number of votes shall be dropped, and the balloting shall proceed in this manner until an election is had.

ARTICLE VIII.

SECTION 1.—The president shall preside at all meetings of the league.

SEC. 2.—The secretary-treasurer shall give bond for the trust reposed in him, whenever the executive council shall deem it requisite. He shall demand and receive the funds due the society, together with voluntary donations. He shall pay out of the treasury only on a written order from the president. He shall submit his accounts to such examination as the league may order, and he shall annually render an account of the expenditures and of the receipts and funds in his hands.

SEC. 3.—The secretary-treasurer shall perform the ordinary duties of secretary and treasurer for the league and its executive council.

ARTICLE IX.

The annual dues shall be $2.00, payable in advance.

ARTICLE X.

The chairman of the legislative committee of the National Auxiliary Congressional and Legislative Committee for Colorado, of the Colorado State Medical Society, the State Homeopathic Association and the Colorado State Eclectic Society, shall be, if not among the members of the executive council, ex-officio members of said council.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Orthopedics, held March 3, 1904.

The Vice President, Dr. Virgil P. Gibney, in the chair.

The paper of the evening was read by John Ridlon, M.D., Chicago, on "The Ultimate Results of the Bloodless Replacements of Congenitally Dislocated Hips." This is published in full in THE JOURNAL, April 16 and 23.

DISCUSSION.

DR. H. AUGUSTUS WILSON, Philadelphia, said that Dr. Lorenz had operated on nine cases in the Jefferson Medical College Hospital in Philadelphia, the results of which are as follows: There are three perfect anatomic and functional results. These patients are under two years of age; one a single dislocation, the other double. Three cases have good functional results. By that it is meant that they are so far improved over their former condition as to make the trivial limp apparent only to an expert. This gives 66.6 per cent. successes.

Six out of the nine have good functional results. One was not reduced—a child aged four, who had been previously subjected to various forms of tenotomy, stretching in bed, extension, had worn a brace a considerable length of time. In this case there was failure to produce a reduction. Lorenz attempted reduction and failed, after almost exhausting his strength. It was put up in typical position, and in six months radiograph showed the hip to be not reduced. The ultimate result was great improvement of function.

A double case, in six months, after the original cast was removed, showed apparent typical replacement. The conditions which made it slip were undoubtedly due to the misunderstanding of the physician in charge of the necessity for the weight-bearing feature emphasized by Dr. Lorenz. This child was kept at rest, sitting or lying in bed. At no time was it taught any method of extending the legs to get the hamstrings in full extension. It did not step on its foot for six months. The muscles of both legs were atrophied from disuse, the ham-string tendons were contracted so that the knees could not be straightened, and that made the joint slip from a very shallow acetabulum.

Dr. Lorenz, in June last, saw the case and found it necessary to etherize the child and stretch the hamstrings again. Notwithstanding the second manipulation on the hamstring tendons, both hips slipped.

Dr. Wilson had been surprised at the low valuation that Dr. Lorenz placed on the radiographs in cases of congenital dislocation. Dr. Wilson thought they were useful as a matter of record rather than as a test of conditions.

The radiograph of several cases showed a deep acetabulum, completely deceiving those interested as to the real conditions present, which were found to be filled with cartilage and fibrous tissue.

Casually alluding to the results in the thirty-two cases under his observation in Philadelphia, Dr. Wilson said there had been no paralysis of any sort, nor disturbance of the circulation. In one case there was temporary edema of the vulva, necessitating catheterization for forty-eight hours; after that, function returned.

There is a question as to whether we are justified in considering the classification of perfect anatomic results. Perfect anatomic results do not always give the best functional results, and function is the object always desired. It is clearly impossible to make a new hip that will be anatomically perfect in cases that have been born with abnormal hips, and the highest ideal should be to obtain functional recovery and a functional result is not always obtained in a so-called anatomic replacement.

A boy eleven years of age, by radiograph and palpation, showed a full, anatomically perfect replacement, but he had rigid, stiff hips which possibly might become limbered up after a while, but were far from a functional recovery.

We are making too fine a distinction in classes of cures. If we can form a standard of functional recovery, we will be attaining higher percentage of successful results, and be doing justice more fully to the man who has taught us.

DR. E. H. BRADFORD, Boston, said that the congenital dislocations of the hip during twenty years at the Children's Hospital, Boston, had been carefully examined and the results were most encouraging in that it appeared that the percentage of absolute anatomic cures had been steadily increasing. By cures was not meant functional cures, or transpositions, but results by which the head was replaced in the acetabulum with perfect restoration of gait, shown by measurements, by palpation, by observation and by skiagraph record, and it is probable that in the near future these will be the results that the surgeon will expect to attain.

Relapses occur after congenital dislocations of the hip have been reduced, in a large number of cases. Dr. Bradford entirely agreed with Dr. Ridlon that in operable cases, the manipulative method as demonstrated by Dr. Lorenz was the method of choice. This may not, however, be considered a permanent solution of the question. Improvements in technic were to be expected in this as in other branches of surgery.

Relapse, as we understand after-treatment more thoroughly, may be expected to become less frequent. At present manipulative methods are to be tried in all operable cases. Where this fails, owing to a folding of the capsule in front of the reduced head, incision is advisable. In cases with osseous change, operations on the bone are considered.

It would seem that anatomically there is no greater difficulty in the cure of congenital dislocation of the hip than in the cure of congenital club foot, and in the next decade we may consider congenital dislocation of the hip one of the readily curable deformities.

DR. R. WHITMAN, New York City, said that from his own experience he could not accept Dr. Ridlon's statistics as representative. In his opinion in properly selected cases (the younger the patient the better the prospect of cure) 40 per cent. of the cases should be perfectly cured by this method. He did not, however, limit himself to the Lorenz operation, but having failed by that method he would recommend arthrotomy. By this means one might assure himself that the head of the femur was actually within the acetabulum, or if the femur were so twisted as to make permanent apposition impossible, one might restore the normal relation by means of osteotomy. Finally the old Hoffa-Lorenz operation might serve as a last resort to assure stability, which was hardly possible without bony support. It was true that the best result by this method could not compare with the perfect cures attained by bloodless reduction. The average result, however, was better than after transposition. He was inclined to think then that when bloodless surgery had found its limit one should supplement it by other surgery, and that by a more comprehensive treatment the results would be greatly improved.

Dr. Whitman said that there were different varieties of transposition which had not been recognized, apparently, in the statistics presented. One was caused by hyperextension, in which the head of the femur was forced too far forward so that it could be felt and seen directly beneath the femoral artery. In cases of this character the limb remained, when the plaster bandage was removed, in an attitude of abduction and extension; motion could be restored only by persistent manipulation, and in some cases an anesthetic might be necessary to lessen the distortion. Yet in this class of cases the final result was likely to be good, and even perfect, because of the permanency of the reduction. If, on the other hand, the head of the femur were just outside the femoral artery, the result was usually unsatisfactory in that the shortening was progressive until the head came to a resting place beside the anterior superior spine. In only one class of cases could such transpositions be regarded as a good result. If, for example, one had transformed a bilateral posterior into a bilateral anterior displacement, the contour of the body was improved and the symmetrical disability was markedly decreased, but if in such a case one side were actually cured and the other transposed, the surgeon might be accused of injuring the patient because the swaying gait had been changed to a noticeable limp. In such a case one should always perform the open operation with the aim of assuring stability, even at the expense of a part of the range of normal motion.

DR. A. JACOBI, New York City, asked the earliest age at which a patient should be operated on when found to have congenital dislocation of the hip. A case might be discovered when a baby was but a few months old; is any operation in order at this time?

DR. NEWTON M. SHAFFER, New York City, thought Dr. Rid-

lon's statistics formed an intelligent and comprehensive basis for judging of the Lorenz operation and its results. His own cases could not be well judged yet, but in all of them—and all were apparently successfully reduced—the tendency to the condition known as the "anterior transposition" was marked. He thought that Dr. Ridlon's statement that this was due, in a large measure, to the conditions produced by the tearing of all the resisting tissues—especially the muscles and nerves, was correct. In the after-treatment of this condition we should study the "adaptive muscular conditions," as he termed it, more closely. Normal muscles shorten and lengthen as opportunity is given—as, for instance, in the acquired talipes equinus associated with the shortened leg in hip disease. In infantile paralysis the shortening of the unparalyzed muscles is always marked. In lateral curvature the same thing is observed. Muscles lacerated as in this operation, for instance, the adductor group, by the force necessary to reduce a congenitally dislocated hip, may be so far injured that it may be years before they can regain their normal contractility, if they ever do. Add to this a nerve injury and the condition becomes more complicated. Studying the results which have come under his observation, he said in the future he should give these muscles a much longer time to recuperate before discarding the mechanical protection. In other words, after the plaster-of-paris splint is removed, a simple steel support should be applied, as, for instance, in extensive infantile paralysis, embracing the pelvis with a conventional pelvic band controlling the entire limb to and involving the foot, with anteroposterior motion only at the hip, knee and ankle, with or without perineal pads, as indicated. This would place the femur and the hip under the control of the surgeon and prevent any "anterior reposition" and the "weight-bearing" principle could be scientifically applied, while the patient walks about—with the head of the femur in the acetabulum. Massage, etc., could be used to restore the lost muscular power.

He had applied this treatment to two of the patients now under observation at the State Hospital, who are doing well. He wished he had applied it to two others, who have done badly since they left the hospital, with apparently perfect reposition.

DR. V. P. GIBNEY, New York City, said that the cases operated on at the Hospital for Ruptured and Crippled are hardly ready for presentation of final results, but he believed the results would compare very favorably with those shown by Dr. Ridlon.

DR. RIDLON said that the earliest case of congenital dislocation of the hip he had had anything to do with was one of seventeen months. There can be no question that the earlier one operates the easier it is to make replacement and the less the injury. On the other hand, the earlier the operation the more difficult the retention, because the delicate baby's skin does not bear covering as does that of an older child. A baby wets the plaster splint.

One case operated on by him, which he reported on as having relapsed because the splint was wetted and bent (the child flexed and the head went out backward) was operated on by Lorenz. The result was anterior and supracotyloid displacement. It is an annoyance to have to change a plaster splint, reeking with urine, almost every week for eight months. Earlier than eighteen months, one does not recognize the dislocation; generally not until the child has walked.

In one case a child had club foot and congenital kyphosis, coming for treatment when six weeks old; it was not known that she had a dislocated hip until she was nearly three years old. From two to four years is the period of choice—when the child is old enough to be cleanly.

As to Dr. Whitman's remarks that the greatest thing to be desired in the treatment of congenital hips would appear to be stability, the speaker would not agree. He had the pleasure of examining cases operated on and cured by Dr. Whitman in 1900. They were certainly replaced and certainly stable, also certainly stiff, by the cutting operation. Dr. Ridlon did not consider a stiff hip in a good position as good for a patient to use or as desirable as a hip with which he can walk, with just a little limp, which can be bent to a sitting position. He thought it best to get a functional result even if not a perfect anatomic replacement.

Dr. Whitman also spoke of different transpositions. Those cases in which the head has lain back of the artery, Dr. Ridlon had called extreme anterior transposition in contradistinction to those lying to the outer side of the artery and on a level with the acetabulum as shown by the *x*-ray; where the head could be felt but not seen, while those back of the artery can be seen as well as felt by him.

One point was not brought out in the paper—the ultimate result of dislocation of the head, anterior and directly behind the artery. Some results are counted as good if the head is in this position. Dr. Ridlon did not think we knew what the ultimate result would be when the head is back of the artery, but feared that it may arrest development of that limb with growth. It might not happen, but is to be feared. Dr. Whitman says those lying back of the artery do not go up; this is very likely true.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Iodin in Enlarged Glands.

Wyatt Wingrave, in *British Med. Jour.*, states that, being specially interested in the supplemental treatment of enlarged glands and adenoids with iodin, he has obtained, after experimenting for many years, an iodin combination that can be given for a considerable period without causing symptoms of iodism while exercising its specific action. The form now used successfully is iodin in a loose chemical combination with tannic acid as follows:

℞.	Iodi (pure)	gr. xxxviiss	2 50
	Acidi tannici	ʒi	4
	Alcoholis (90 per cent.)	ʒx	40
	Syrupi simplicis	ʒiiss	75

M. Dissolve the iodin in alcohol and add the tannic acid and one ounce of the syrup; heat to just below the boiling point until the solution affords no evidence of free iodin, with starch reaction (about 20 minutes). Cool and add the remainder of the syrup. Sig.: One-half to one teaspoonful before meals, according to age.

Each teaspoonful contains two grains of iodin.

The foregoing is useful in chronic lymphadenitis, associated with or independent of adenoids, enlarged faucial tonsils and large cervical glands.

In atrophic rhinitis gratifying results have been obtained, especially when combined with arsenic. It is also of value in the treatment of bronchocele.

Diarrhea of Typhoid Fever.

The following combination is recommended by the *Dublin Jour. of Med. Science* to check the diarrhea of typhoid fever:

℞.	Bismuthi carb.	gr. x	65
	Sodii bicarb.	gr. v	30
	Cretæ prep. arom.	gr. xx	1 30
	Tinct. opii	gtt. v	30
	Spts. chloroformi	gtt. x	65
	Sodii salicylatis		
	Pulv. tragacanthæ, āā	gr. x	65
	Aquæ q. s. ad	ʒi	30

M. Sig.: To be taken at one dose and repeated as indicated, to check the diarrhea.

Cough in Tuberculosis.

Dr. D. B. King, in an abstract in the *N. Y. and Phil. Med. Jour.*, recommends, in the treatment of the cough in tuberculosis which occurs on rising in the morning, that the patient

be instructed to sip slowly a cup of hot milk, to which 15 to 30 grains of sodium chlorid has been added.

For the cough occurring at night he advises the administration of the pilula ipecac. et scillæ (B. P.) grains 5 (.30).

For excessive coughing through the day the following is recommended:

R.	Pot. citratis	gr. xv	1
	Liq. ammon. acetatis	ʒii	8
	Tinct. scillæ	m. xii	75
	Vini ipecacuanhæ	m. x	65
	Aquæ anisati q. s. ad	ʒi	30

M. Sig.: At one dose for the cough.

Or a better combination is as follows:

R.	Apomorph. hydrochlor.	gr. 1/24	0025
	Morph. hydrochlor.	gr. 1/8	008
	Acidi hydrochlor. dil.	m. ii	12
	Oxymel	m. xx	1 30
	Glycerini	m. x	65
	Aquæ q. s. ad	ʒi	4

M. Sig.: At one dose.

Or the following containing both apomorphin and heroin:

R.	Apomorphin. hydrochlor.	gr. 1/24	0025
	Heroin	gr. 1/16	004
	Terebene	m. x	65
	Mucil. acaciæ		
	Syr. tolutani, āā	ʒi	4
	Aq. camphoræ q. s. ad	ʒss	15

M. Sig.: To be taken at one dose.

Apocodein is also recommended by the author as of service in checking the cough:

R.	Apocodeinæ	gr. 1/10	006
	Terebene	m. x	65
	Mucil. acaciæ	ʒi	4
	Aquæ camphoræ	ʒss	15

M. Sig.: At one dose.

In cough which persists while the patient is at rest relief is often given by the patient taking moderate exercise.

As an injection in tuberculosis the following is recommended by *Clinica Moderna*:

R.	Iodi (pure)	gr. viiss	50
	Pot. iodidi	gr. lxxv	5
	Crys. guaiacol	ʒiiss	10
	Glycerini (pure)	ʒx	40

M. To be used hypodermically, beginning with a few drops of the solution.

Diseases of the Eye.

The following combinations are recommended by L. Webster Fox, in *Med. Bull.*, in the treatment of diseases of the eye:

EDEMA OF THE LIDS.

R.	Liq. plumbi subacet. dil.	ʒii	8
	Tinct. opii		
	Tinct. belladonnæ, āā	ʒiss	6
	Tinct. arnicæ	ʒi	30
	Aquæ camphoræ		
	Aq. destil., āā, q. s. ad	ʒ iv	120

M. Sig.: To be applied locally.

[It seems from the ingredients included that great care should be employed in using the foregoing combination.]

CONJUNCTIVITIS.

R.	Acidi borici		
	Sodii biboratis, āā	ʒss	2
	Aq. menth. pip.	ʒiii	12
	Ext. hamamel. dest.	ʒiv	15
	Aq. camphoræ		
	Aq. destil., āā	ʒii	60

M. Sig.: Bathe the eyes freely.

OPHTHALMIA NEONATORUM.

R.	Hydrastin hydrochlor.	gr. iv-vi	25-.35
	Acidi borici	gr. xx	1 30
	Tinct. opii deod.	ʒii	8
	Aquæ destil.	ʒiv	120

M. Sig.: As an eye lotion.

ULCERS OF THE CORNEA FOLLOWING PURULENT CONJUNCTIVITIS.

R.	Eserin. sulph.	gr. ¼	015
	Hydrarg. oxid. flav.	gr. ⅛-i	008-.06
	Liq. petrolati	ʒi	4

M. Sig.: A small amount to be placed in the eye once or twice daily, followed by light massage of the lid.

Acute Rhinitis.

The following combinations are recommended by *Merck's Archives* in relieving the catarrhal condition in acute rhinitis:

R.	Menthol	gr. ii	12
	Pulv. benzoini	ʒi	4
	Bismuthi subnit.	ʒiss	6
	Acidi borici	ʒi	4

M. Sig.: A small amount to be insufflated into the nose two or three times daily; or:

R.	Cocainæ hydrochlor.	gr. iss	09
	Iodol	gr. iii	20
	Acidi borici	ʒiss	6
	Bismuthi subnit.	ʒi	4
	Acidi tannici	gr. v	30
	Menthol	gr. iii	20
	Pulv. amyli	ʒiiss	10

M. Sig.: To be insufflated; or:

R.	Bismuthi salicylatis	ʒiiss	10
	Pulv. camphoræ	gr. xl	2 65
	Menthol	gr. ii	12

M. Ft. pulvis. Sig.: To be insufflated into the nares three or four times daily.

Veronal in Insanity.

Veronal has been used successfully as a sedative to the nervous system by Wuerth of Hofheim in a great many cases of insanity, according to *Ther. Rev.* After treating 84 restless and troublesome insane women he has noted its relative action to other drugs. He found it to be of great value in the treatment of acute dementia, paralytic dementia, melancholia, senile dementia, idiocy, periodic insanity, epilepsy, hysterical mental disturbance, also in cases of ordinary insomnia.

As a sedative he gave from 3 to 7½ grains (.20-.50). However, double this sized dose may be given if necessary. He administers it dissolved in hot milk, hot tea, or in powder form. It produces sleep in from one-half to two hours. It is equal to double the dose of trional, and does not have that accumulative narcotic action. No ill effects have been noted by the author on the heart, kidneys or digestion.

According to the *Internat. Med. Annual*, 1904, Poly finds this preparation to be a valuable hypnotic given in capsule form in doses ranging from 4 to 12 grains (.25-.75). It is of no service in insomnia due to pain, unless combined with morphin. In some cases drowsiness, headache and dizziness were noted the following day. This preparation is specially recommended for the sleeplessness of morphinists.

[Veronal is a new hypnotic. It is the diethylmalonylurea.]

Medicolegal.

Pregnancy in Rape Case and Improbability of Conception.—The Supreme Court of Iowa says, in the case of State vs. Carpenter, a prosecution for rape, that the pregnancy of the prosecutrix has not heretofore been considered ground for a continuance. Her condition might, of course, appeal to a jury, and tend to enlist their sympathies; but the presence in the court-room of a child born as the result, or as the claimed result, of a rape, would be quite as potent in this respect. Consequently, there was no error in overruling the motion for a continuance in this case. Indeed, the condition of the woman might well have been good ground for proceeding with the trial at that particular time. The dangers incident to childbirth may well be taken into account when such applications as this are made. A point was sought to be made as to the improbability of the witness conceiving at the time she claimed she was ravished. This was based on the theory that her last menstrual period had so far passed that conception was improbable, and on the further thought that conception at such a time was the more improbable on the state's theory of ravishment. But the court declares that it can not say, as a matter of law, that conception could not occur under such circumstances. This whole matter was for the jury.

Good Health—Aggravation of Existing Infirmity.—The Supreme Court of Georgia holds, in Atlantic & Birmingham

Railroad Co. vs. Douglas, a personal injury case brought by the latter party, that "good health" is a relative term, and does not mean absolute freedom from physical infirmity, but only such a condition of body and mind as that one may discharge the ordinary duties of life without serious strain on the vital powers. In life insurance cases, the court says, it has been held that "good health" does not ordinarily mean freedom from infirmity, and that "good health" or "sound health" means a state of health free from disease or ailment that affects the general soundness and healthfulness of the system seriously. When the party suing in this case alleged, therefore, that she was in good health, her petition was not to be construed as alleging that she was perfectly sound and free from all infirmities; and, consequently, when, under the evidence, it appeared that she was laboring under an infirmity of which she was ignorant, but this infirmity did not interfere with the discharge by her of the ordinary duties of life, and probably would not have ever interfered with her but for the injuries resulting from the negligence of the railroad company, she was not precluded from recovering simply because it developed that the injuries to her were the result, not of the negligence of the company alone, but of that negligence and a pre-existing infirmity, which up to that time had not been the occasion of any inconvenience to her. Or, as the court restates it, when, in a suit by a female against a railroad company for damages for personal injuries, it is alleged that she was, prior to the injuries, "in good health," a recovery may be had notwithstanding it appears from the evidence that at the time of the injuries she was laboring under an infirmity of which she was ignorant, and which did not interfere with the discharge by her of the ordinary duties of life, and that the result of the negligence of the railroad company was, not to produce an infirmity, but simply to aggravate the existing infirmity.

Not Liable for Death from Smallpox Communicated by Nurse.—In reversing the decision in M., K. & T. Ry. Co. of Texas vs. Freeman, reported on page 1676 of THE JOURNAL of June 13, 1903, the Supreme Court of Texas holds that, under the statute of that state, the company was not liable for death from smallpox communicated by an unreliable nurse intrusted by one of its local surgeons with the care of a pest camp. It says that to make the negligence of the surgeon that of the employer required the aid of the rule respondeat superior, the superior or master must answer. This, however, is eliminated by the Texas statute from this class of actions, except to the extent it is made applicable to those falling within the provision giving a right of action for death "when the death of any person is caused by the negligence or carelessness of the proprietor, owner, charterer, hirer of any railroad, steamboat, stage-coach, or other vehicle for the conveyance of goods or passengers, or by the unfitness, negligence or carelessness of their servants or agents." But the servants and agents for whose misconduct liability is created are those engaged in prosecuting, in some way, the business of conveying goods or passengers; and, as in law one person acts as the servant or agent of another only when he acts in the scope of his employment, the death contemplated by the statute must be caused by the servant while prosecuting the business of conveying goods or passengers. Besides, the court thinks it evident that if such a relation as that which existed between the detention camp in question, where one of the company's servants was being taken care of, and the railroad were held to make the keeping of the camp a part of the proper business of the company as owner of the railroad conducting a carrying business, it would be found impracticable to fix a limit at which it would be possible to stop short of the broad proposition that such companies and individuals, merely because they own and operate railroads, or some of the vehicles mentioned in the statute, are responsible for all deaths caused by their employes in any business. Such a construction of the statute would take away all foundation for the discrimination which the legislature has made in the business specified in the statute and other persons and corporations, making the former responsible for deaths occurring in the prosecution of collateral business when others engaged in like collateral businesses are not held to a like accountability.

Prescribing Intoxicating Liquors for Minors.—The Court of Criminal Appeals of Texas has reversed, in Atkinson vs. State, a conviction of a physician for selling liquor to a minor without the written consent of the parent or guardian of the minor. The prescription was in the terms of the law. The minor in question was about 18 or 19 years of age, and the facts for the prosecution and the physician showed that he was sick at the time. The question as to the minority of the patient was not mentioned or discussed between him and the physician, while the testimony of the latter indicated that, if he had thought about it at all, he would have thought the patient was about 21 years of age, but really that question did not enter his mind. He gave the prescription because the boy was sick and needed it. Furthermore, he proved good character as a physician, man, etc. The transaction occurred in local option territory. The court treats the case from the standpoint that the physician knew or had reason to believe that the patient was under 21, with the result above stated. It says that the general rule is that, where local option has been put into operation, it constitutes the exclusive system for the regulation or manner of liquor selling in the given locality. The local option law of Texas provides that intoxicants can be sold as a medicine in case of actual sickness in a local option territory, and with no other saving clause, except the sale of wine for sacramental purposes. This is inconsistent with the law prohibiting the sale to minors except on the written consent of the parent or guardian, when liquor is sold on prescription, and, being inconsistent, it must be considered as suspending that law during the operation of the local option law. Aside from the local option law there is another phase of the case well enough to notice. From the authorities the rule is deducible that, where there are statutes like those of Texas prohibiting the sales to minors (and most of the states in the federal union have practically the same law), where the sale is for medicine it is not within the inhibition of the statute prohibiting sales to minors. This question has been frequently decided in the states of the union as well as Texas. Bowman vs. State, 38 Tex. Cr. R. 14; Ball vs. State, 50 Ind. 595; Lindley vs. Braxton, 27 Ind. 56; People vs. Board of Com. 3 Scam. 153; Hooper vs. State, 56 Ind. 156; Elrod vs. State, 72 Ind. 294; Nixon vs. State, 76 Ind. 526; 11 Amer. and Eng. Ency. of Law, 703; State vs. Wool, 86 N. C. 708.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

April 9.

1 *The Body Defenses and Syncytioma Malignum. Joseph McFarland.
2 *Non-operative Relief of Eyestrain for the Possible Cure of Epilepsy as Tested in 68 Cases at the Craig Colony. William P. Spratling and George M. Gould.
3 Preliminary Report of a Series of Metabolism Observations Made in Atrophic Arthritis, Hypertrophic Arthritis, Osteitis Deformans and the Normal. (Concluded.) Joel E. Goldthwait, Charles F. Painter and Robert B. Osgood.
4 Nervous Complications of Typhoid Fever. Herbert A. Black.
5 Cholecystectomy vs. Cholecystostomy. A Plea for the Plaintiff. Maurice Kahn.
6 *Corneal Ulceration Due to Nasal Infection. S. Lewis Ziegler.

1. **Syncytioma Malignum.**—McFarland reviews the subject of the defense of the organism against overgrowth, and applies the facts to the syncytioma. There must exist, he thinks, between the embryonal and maternal tissues a cytolitic equilibrium, through which the variations favor the embryonal tissues during pregnancy and the maternal tissues after parturition. If the ovum should fail to provide the necessary cytolytic substance, it would be unable to secure an appropriate nidus and sterility might result, or if the cells of the embryo should fail, abortion might be the outcome, or in case they did not resist the antagonistic substance of the maternal tissues until the completion of gestation, miscarriage might result. On the other hand, if the maternal tissues fail in their antagonism, we can conceive that the actively growing syncy-

tium would invade the uterine wall with abnormal rapidity or to an abnormal extent, and that during involution fragments might be retained for an indefinite period, causing local disturbance if quiescent, or disorganization and hemorrhage if active. If the ability of the maternal tissue to resist this invasion was general instead of local the formation of metastatic secondary masses in various parts of the body to which syncytial fragments were accidentally transplanted, would be the result.

2. **Epilepsy and Eyestrain.**—At the instance of the superintendent of the Craig colony, Dr. Gould visited it in August, 1902, and made a thorough test of the ocular conditions and the benefit of their correction in 78 patients. The number of attacks each patient had had before this study and after was recorded, and in one case in which the patient had grand mal of great severity it seems that arrest was made and a possible cure may be anticipated. He has had no attacks for a period of 11 months. Five previous arrests were possibly sustained by the use of glasses, and there was an apparent decrease of the attacks in 11 cases, though not permanent or so slight as to make it impossible to say that it was not due to the ordinary fluctuations of the disease. In 33 cases the attacks appeared to be increased, and in 16 there was no change whatever in the symptoms. The experiments, Spratling says, seem to prove that in looking for the cause and cure of epilepsy we must not confine our attention to any single organ and its abnormalities, but must study the whole organism and its parts. He regrets that the experiments, so carefully and scientifically made by Drs. Gould and Bennett, did not yield better results, but it strengthens his opinion that epilepsy is not a "single prescription disease," so to speak, and that the correction of ocular abnormalities alone is not any more likely to cure it than surgical measures on the brain from which so much was at one time hoped. Dr. Gould publishes an addendum to the paper in which he supports his formerly expressed views and thinks that two mistakes were made in conducting the experiments: 1, that young patients and only those with less injured nervous systems should have been chosen, and 2, that resident or frequently visiting opticians and oculists should have been insured to make the retestings and readjustments when necessary. Still he considers that the apparent improvement in 19 out of 57 patients, and the one cure in 57 against one in 80 by all other methods of treatment, indicate the value of the method.

6. **Corneal Ulceration from Nasal Infection.**—Ziegler points out the ways in which the cornea may be affected from nasal disorder and epitomizes the treatment as follows:

1. The nose should have antiseptic irrigation and local treatment applied.
2. The lacrimonasal duct should be disinfected or dilated.
3. The eye should have a soothing lotion, a mydriatic instilled, and a cauterant applied to the ulcer, if necessary.
4. The diet should be regulated, tonic and antiphlogistic treatment given, and the hygiene generally improved.

Medical News, New York.

April 9.

7 *Tuberculosis of the Spinal Cord, with Reports of Cases of Tuberculous Myelitis and of Tuberculous Pachymeningitis. Charles L. Dana and J. Ramsay Hunt.
8 *The Outlook for a More Sanitary Street-car Service in New York. George A. Soper.
9 *The Early Diagnosis of General Paresis. William A. White.
10 *Pulmonary Tuberculosis as an Infectious Disease; Its Early Diagnosis. James J. Walsh.
11 *Pathologic Changes in Tissue Under the Influence of the X-ray. William S. Newcomet.
12 Historical Sketch of Some of the So-called Cures for Consumption, with a Few Notes on Latter-day Treatment. (To be concluded.) J. Edward Stubbert.
13 *Normal Labor Considered from a Surgical Standpoint. A. M. Pond.
14 Rubber Cushions for General Surgical, Gynecologic and Obstetric Use. Howard A. Kelly.

7. **Tuberculosis of the Spinal Cord.**—Tuberculous myelitis is not yet recognized as a special separate pathologic process by the neuropathologist, at least it is not described in recent works nor referred to by writers on the general pathology. Dana and Hunt report cases, however, which point strongly to such a condition. The first case was one that seems to have been a direct infection or infiltration of the cord alone. The article is illustrated.

8. **Street-Car Sanitation.**—Soper gives the findings of the committee on engineering and sanitation appointed by the Merchants' Association of New York, showing the sanitary deficiencies of street and elevated cars, such as sand pile spittoons, lack of cuspidors, need of better car sanitation, more frequent cleansing of the cars, better floor coverings, the unsanitary condition of the closets in the stations and the need of ventilation both on the cars and in the stations, and the better regulation of temperature. In the surface railroads there should also be better ventilation and cleansing methods. The criticisms are much the same in both cases.

9. **Paresis.**—White points out the underlying dementia in the psychic symptoms in incipient paresis and the various disorders from which it should be clinically diagnosticated. The principal diseases which may be mistaken for it in the early stages are tabes, acquired neurasthenia, some of the pure psychoses, alcoholism, brain tumor, cerebral syphilis and disseminated sclerosis. The differentiation from tabes is not entirely easy. The physical signs may be the same. The preservation of knee-jerks and the associated evidence of dementia, however, are characteristic when they exist. The general mental attitude of the patient in acquired neurasthenia is significant. In neurasthenia there is no dementia, disorders of speech or writing or history of seizures. The tendon reflexes are equal or abolished, the pupils equal and reaction normal, while in paresis they are more apt to be dilated, frequently unequal and very much contracted. Alcoholism may closely simulate paresis, though the disappearance of the symptoms with discontinuance of the cause is remarkable. In brain tumor the focal symptoms should be looked for, and in disseminated sclerosis the differentiation should be by tremor, nystagmus and scanning speech, though some of these cases do ultimately develop typical signs of paresis. He points out a series of differentiating signs between cerebral and cerebrospinal syphilis and paresis which he thinks may be found, and the fact that the antisyphilitic remedies produce immediate results in many cases.

10. See abstract in THE JOURNAL, xli, p. 1224.

11. **Tissue Changes Under the X-Ray.**—Newcomet has studied the effects of the *x*-ray on the tissues microscopically, though he has not been able to study a case of simple burn. In all instances there had been pre-existing disease. He reports his cases and findings and concludes that no single form of degeneration is characteristic of the *x*-ray. The form of degeneration observed depends entirely on the tissue exposed. The method of *x*-ray application, and the effect of the *x*-ray depends on the cell formation of the exposed parts. But why certain normal cells, such as those in the hair follicles, should be more susceptible than in other tissues is still a question.

13. **Normal Labor.**—Pond recapitulates the points of his article under the following heads:

1. Success in obstetrics depends wholly on ability to secure and retain surgical cleanliness.
2. The same infective agents encountered in surgical practice are the causative agents in producing puerperal complications, and are only successfully combated by the employment of stringent aseptic and antiseptic technic.
3. Refrain from making numerous vaginal examinations, and when done, execute great aseptic care.
4. Do not wait until you are called to the case to make the preparations for confinement.
5. The practice of carrying a confinement pad is dangerous. An improvised pad is easily made with a quilt rolled and pinned in horseshoe shape, with a piece of white table oilcloth laid over it. This is aseptic and inexpensive.
6. Sunshine in itself is a valuable germicide: do not exclude it.
7. Unless the vaginal discharge is known to contain pyogenic bacteria the douche is contraindicated.
8. Exert the same surgical technic in dressing the umbilicus that would be demanded in any other fresh wound.
9. Be clean and be sure that you are clean. Take no chances. By so doing you will reap a liberal temporal reward, besides having the serene satisfaction of knowing that you are serving humanity faithfully and well.

New York Medical Journal.

April 9.

15 *The Wiring of Bone for Recent and Ununited Fracture with Report of Cases. Stewart L. McCurdy.
16 *Skiagraphic Errors; Their Causes, Dangers and Prevention. (Continued.) Lewis Gregory Cole.
17 *Guides to the Prognosis in Epilepsy, with Remarks on the Curability of the Disease; Including Reports of 34 Cases. (To be continued.) William P. Spratling.
18 *The Epidemic of So-called Trachoma. Ellice M. Alger.
19 The Physiology and Pathology of Biliary Secretion. Hubert Richardson.

20 Right Pulsating Exophthalmos: Ligation of Both the Right Common Carotid Artery and the Left Internal Carotid Artery; Accidental Traumatism; Cure. Charles A. Oliver.
21 On Laboratory Diagnosis. (Continued.) M. P. Overholser.

15. **Wiring of the Bone in Fractures.**—McCurdy illustrates his experience in wiring the bone, and favors the use of iron wire, iron being a normal constituent of the system, while silver is foreign and acts as such in the tissues, abstracting sulphur and producing more or less disturbance. He recommends, first, wiring of the bone while the ends remain down in their normal position, avoiding any removal from such position if possible as destroying the normal relations of things. It also preserves the nutrition, prevents necrosis and guarantees union. He also advises anchoring of the bony fragments to an external bridgework to hold them in position during repair. He illustrates his instrument for cutting off the ends of the bones when required.

16. **Skiagraphic Errors.**—The usefulness of the *x*-ray in fractures and bony deformities is twofold. First, in cases of injury of doubtful diagnosis, especially when near the joint, to determine whether or not there is fracture, and if so, what it is. In many cases only the skiagraph will reveal the condition, especially if small fragments are chipped off. If we are sure of fracture it is far less necessary to skiagraph than it would be to have a skiagram made of a part that has been continuously diagnosed as a contusion or strain. Many times these contusions or strains prove to be fractures of small fragments of the articular surface of the bone. It may be necessary to move the tube, plate and limb in several different positions before we can detect the fracture, but a skiagram so taken must not be interpreted as representing the relative position of the fragments. It is used simply to show the fracture, and when it has done that its usefulness is over. A broader and more important field of the skiagram is to show whether there is or is not any deformity. It does not require to be taken at the time of injury, and it may be done just as well years later. It is less useful when taken early, especially if the bones are still at all movable. To show the deformity best we must resort to what we might call comparative skiagraphy. The physician or even the surgeon can not properly be asked to compare a skiagram of an injured limb with his recollection of the bone as he has studied it in his student days, and say whether there is any deformity or not. It is also untrustworthy to compare an individual skiagram with a description or composite picture, or the part of one person with the corresponding part of another. There is only one thing to compare it with, that is, the corresponding normal part of the subject. If the plate is horizontal and the part to be skiagraphed is flat on the plate in such a position that the bone will be as near the plate as possible, and if the tube is vertically over the point of fracture or deformity, we can get the best possible picture of the part. But this is not enough. We must have a skiagram of the corresponding normal part with the tube, plate, part to be skiagraphed and the relation of the part to the body as a whole in exactly the same relative position as the skiagram of the injured part. If this is done with absolute accuracy it should show any deformity that may exist. We know then that it is really deformed and not a skiagraphic error.

17. **Epilepsy.**—Spratling commences his paper with the following propositions:

1. Epilepsy is curable in from 5 per cent. to 10 per cent. of all cases.
2. It requires, as a rule, a long continued course of treatment—never less than two to three years—carefully mapped out and executed to the letter, not only along one, but along many lines, to effect a cure.
3. The failure to secure better results, generally, in the treatment of this disease must frequently be laid to the failure to treat the individual and his disease as a unit, and to treat them both along the very broad, comprehensive and unyielding lines they both require.
4. The drug treatment of epilepsy alone, while invaluable in many cases and of some use in every case, often fails completely to meet the most important requirements.
5. Guides to the prognosis in epilepsy are always uncertain and unsatisfactory until treatment has been in operation from six to nine months, and in some cases a year or longer.

The remaining portion of this installment of his paper is mainly given to the report of cases that have been cured at the Craig colony up to this time.

18. **Trachoma.**—Alger thinks that much of the so-called trachoma observed in the school children of New York is really follicular conjunctivitis according to Fuchs' classical description. The treatment, therefore, for trachoma in every case is not logical. It simply removes the diseased lymphatics, but nothing short of complete removal of the conjunctiva could remove all the lymphatics, and if contagious at all, it is just as dangerous after expression as before. The school children have none of the symptoms of acute trachoma except the soft granulations.

Medical Record, New York.
April 9.

22 Joseph O'Dwyer, M.D., His Methods of Work on Intubation; the Measure of His Success; the Interest of Both to Young Graduates. W. P. Northrup.
23 *What Shall We Do with the Nervous Woman? William C. Sebring.
24 *The Rectal Segment of the Ureter. Byron Robinson.
25 *Technic of the Removal of One-half of the Thyroid Gland. John G. Sheldon.
26 Two Cases of Splenomedullary Leukemia, Treatment and Recovery. Bertram L. Bryant and Harold H. Crane.

23. **Nervous Women.**—Sebring reports 5 cases from actual practice which he thinks illustrates the classes of nervous cases most frequently seen by the physician, and which give him the greatest trouble. The first was one of aggravated hysteria, which after various experiments he subdued by emetics. The second was more of a neurasthenic type with anemia and was treated by Flint's tablets and analgesics for the relief of headache, etc. The third case was an overworked woman with nervous and gastric disorders and muscle spasms, which latter were controlled by splints. He thinks this the most effectual method of treating such cases. The fourth case was diagnosed by the attending physician as one of typhoid fever, and was the result of a low febrile condition, restlessness, insomnia, etc., with abnormal temperature due to the syndrome typical of neurasthenia from long continued strain and overwork. There was some psychic disturbance in this case also. He found the fluid extract of avena sativa the most effectual remedy in this case.

24. **Rectal Segment of the Ureter.**—Robinson describes the anatomy of the ureter in its relation to the rectum and adjoining parts. The paper is fully illustrated.

25. **Thyroidectomy.**—The operation for the removal of half of the thyroid gland here recommended by Sheldon is that originally devised by A. Pearce Gould. It is described as follows:

The gland is exposed by dividing the skin, fascia and muscles. The next step is to pass a Kocher's director or one blade of an artery forceps between the trachea and the isthmus. Usually, I remove the isthmus, and in these cases clamp the gland with a stomach clamp between the isthmus and the lobe that is to be left. When one clamp has been applied, a second one is placed close to the first and an incision made between the two clamps. I now turn the isthmus and the lobe to be removed outward and separate the under surface of the gland from the underlying structures with the finger covered with a piece of gauze. This can be easily and quickly done without injury to the gland or to the structures on which it lies. The thyroid arteries are soon exposed as they enter the under surface of the gland. If a transverse incision has been made the inferior thyroid is first exposed and clamped; if an angular incision has been used, it is easier to expose and clamp the superior thyroid before dealing with the inferior vessel. After the arteries are clamped close to the gland and cut, the removal of the remainder of the lobe is easily accomplished by blunt dissection close to the gland. The veins of the thyroid do not bleed after the arteries have been clamped; and the internal jugular vein, in the great majority of cases, gives no trouble.

The operation, he claims, is better for the avoidance of hemorrhage and of injury of the recurrent laryngeal nerve, and he believes that the thyroid can be removed with less injury to the gland by the method here described than by the ordinary technic. He advises tubular drainage for ten or twelve hours in all operations on the thyroid as a considerable amount of primary wound secretion is exuded and the contents of the gland may have been expressed into the wound during the operation.

Boston Medical and Surgical Journal.
March 24.

27 Ultimate Results of Some Gynecological Operations at the Massachusetts General Hospital. Richard G. Wadsworth.
28 *Eyestrain Considered as a Factor in the Production of Lateral Curvature of the Spine. (Preliminary Communication.) Henry W. Kilburn.
29 *Supernumerary Breasts and Nipples, with Report and Photograph of a Case. Ernest B. Young.
30 *Ring Bodies in Anemic Blood, Additional Forms. Richard C. Cabot.

31 Typhoid Fever in Infancy, with Report of Case Complicated with Meningitis; Recovery. Charles P. Sylvester.

March 31.

32 *The Partial Passing of Neurasthenia. Charles L. Dana.
33 *The Cystoscope—Its Diagnostic Value. A. M. Wose.
34 *Ligation of the Lachrymal Canal to Prevent Infection Following Cataract Extraction. Alex. Quackenboss.

28. **Eyestrain and Spinal Curvature.**—Three cases are reported by Kilburn which he thinks are typical. In these cases eyestrain, by inducing a faulty position, acted as an indirect factor in the production of spinal curvature. The patients were all growing girls with poor muscular development, and the rapid increase of body weight contributed to the result.

29. **Supernumerary Breasts and Nipples.**—Young reports and illustrates a case of supernumerary nipples. He thinks heredity has a certain influence in the occurrence of these deformities, and that in respect to its cause the theory of reversion to some previous type has the greatest number of adherents among writers and offers the most satisfactory explanation for the appearance of these rather interesting deformities. As regards accessory nipples, the theory of the separation of a portion of tissue is apparently the most satisfactory. It may be that some other explanation may be needed for the anomalous position of the nipple occurring on the outer side of the thigh, on the back, etc.

30. **Ring Bodies in Anemic Blood.**—In this brief communication Cabot reports that he has examined 14 cases of pernicious anemia in their active stages, 9, or 64 per cent., of which showed the presence of rings more or less similar to those previously described by him in his former article in *The Journal of Medical Research* of February, 1903. He has also found them in anemias secondary to lead poisoning as also in lymphatic leukemia. Negative results were obtained in 4 cases of pernicious anemia in the stage of remission, in 10 cases of leukemia, in 9 of severe secondary anemia and in 22 cases of various skin diseases. He gives a number of illustrations of the ring bodies, remarking that further study has only increased his ignorance in regard to their nature and origin.

32. **Neurasthenia.**—Dana considers that 50 per cent. of the cases of neurasthenia may be classed under other heads, as dementia precox, slight attacks of melancholia or manic depressive insanity, the more early development of phrenasthenia, under which he includes such states as dipsomania, hysteria, psychic states, obsessions, etc., and the exhaustion psychoses. In syphilitic cases neurasthenia is liable to be a precursor of paresis. In older persons the symptoms usually indicate a mild form of the melancholia of involution. Neurasthenia occurring after severe illnesses, toxemias, etc., sometimes shows signs of confusional psychoses, and the so-called congenital neurasthenia or chronic hypochondria is generally a dementia precox, paranoia or phrenasthenia. His contention is, first, that many cases of dementia precox are in the early stages considered neurasthenics. Also that there are abortive types of dementia precox which pass through life or many years of it, with the dementia arrested, and are classed simply as neurasthenic. The subjects break down early and are unable to continue work and have but little initiative. Simple neurasthenia occurring under twenty years of age is rarely neurasthenia. It is a dementia precox or a recurrent melancholia or the exhaustion of phrenasthenia, and it is rarely paranoia.

33. **The Cystoscope.**—The value of the cystoscope in kidney and bladder disorders is pointed out by Wose, as well as the use of the segregator instruments and catheterization of the ureters.

34. **Ligation of the Lacrymal Canal in Cataract Operations.**—Quackenboss has operated on 2 cataract cases, following the suggestion of Buller of Montreal to temporarily ligate the canaliculi to prevent wound infection in operations on the eye. He has also seen two other cases thus operated on. The canal was tied, and in each he succeeded in preventing infection. He sees no use in leaving stitches after the corneal wound has healed firmly. They caused no irritation in the case reported, and were removed at the end of two weeks. Before taking them out, pressure on the sac failed to discharge anything into the eye, but after removal a probe was easily passed and pressure on the sac caused a small amount of purulent matter to come through the puncta.

St. Louis Medical Review.

April 2.

35 *Modern Views on the Determination of Sex. Fred J. Taussig.
36 My Autobiography and Reminiscences. (Continued.) S. Pollak.
37 *The Explosive Character, When Combined, of Two Frequently Used Substances. H. C. Fairbrother.

April 9.

38 Congenital Dislocation of the Hip. H. W. Jones.
39 My Autobiography and Reminiscences. (Continued.) S. Pollak.

35. **Determination of Sex.**—The subject of sex determination is very thoroughly treated by Taussig, who concludes that the sex of the human embryo is determined far earlier than we are able at present to differentiate microscopically. The study of single-ovum twins shows that such a differentiation must have occurred previous to the formation of a gastrula, in the first days of gestation. Whether the sex is determined earlier than this in man is unsettled, but in some animals it seems clear that the sex must have been determined before impregnation. In certain plants and animals the male and female generative cell can be differentiated by its size while still attached to the mother body; here, as in parthenogenesis, it is unquestionably true that the sex is determined in the unimpregnated ovum. All observations concerning the influence on sex determination of the respective vitality of the sexual elements, comparative age of parents, etc., are based on insufficient data. The influence of nutrition on the formation of sex has been clearly demonstrated for a large number of plants and animals, and the influence of temperature can logically be explained as also a nutritive influence. The effect of any of these factors in the determination of the human sex, however, is yet unproved.

37. **An Explosive Compound.**—Fairbrother calls attention to the fact that a combination of nitric and carbolic acid is dangerously explosive. There are hardly any two agents more frequently used in dressing wounds in the surgeon's office than these. He reports an accident that occurred to him. About half a dram of each of these substances was mixed and an immediate explosion resulted.

Cincinnati Lancet-Clinic.

April 9.

40 Purulent Conjunctivitis. C. W. Tangeman.
41 Medical Library Association of Cincinnati. Henry W. Bettmann.

Annals of Surgery, Philadelphia.

March.

42 *Radical Operations for the Cure of Cancer of the Pyloric End of the Stomach. William J. Mayo.
43 *Contribution to the Surgery of Perforating Gastric Ulcer. Archibald MacLaren.
44 *Cirrhosis of the Stomach. John G. Sheldon.
45 *Treatment of Penetrating Wounds of the Abdomen. Malcolm L. Harris.
46 *Unilateral Hematuria from Chronic Nephritis. Leonard Freeman.
47 *Primary Carcinoma of the Bulbous Urethra. Statistical Digest, with Reports of Some Unrecorded Cases. J. Basil Hall.
48 *Complications and Sequels of Prostatectomy. James E. Moore.
49 Case of Enormous Prostatic Calculus. G. Frank Lydston.
50 *Fibromata of the Tunica Vaginalis. Edward A. Balloch.
51 *Costal and Thoracic Resection for Pyothorax, with Special Reference to the Exploratory Method. Carl Beck.
52 Treatment of Pulsating Exophthalmos. Francis W. Murray.
53 *Lip-tie. Frederic Griffith.

42. **Cancer of the Pylorus.**—The operation here described by Mayo is summed up by him in the following steps:

1. Open the abdomen. 2. Double ligate and divide the gastric artery; ligate and divide the necessary amount of gastrohepatic omentum close to the liver, leaving most of its structure attached to the stomach. Double ligate and divide the superior pyloric artery and free the upper inch or more of the duodenum. 3. With the fingers as a guide underneath the pylorus, in the lesser cavity of the peritoneum, ligate the right gastro-epiploic or gastro-duodenal artery, and progressively tie and cut away the gastro-colic omentum distal to the glands and vessels up to the appropriate point on the greater curvature, and here ligate the left gastro-epiploic vessels. 4. Double clamp the duodenum, divide between with the cautery, leaving one-fourth inch projection. With a running suture of catgut through the seared stump the end of the duodenum is closed as the clamp is removed. A purse-string suture about the duodenum enables the stump to be inverted. The proximal end of the stomach

is double clamped along the Mikulicz-Hartmann line and divided with the cautery, leaving one-fourth inch projection. Suture through the seared stump with a catgut button-hole suture. This is again turned in after removal of the clamp by a continuous silk or Cushing suture. 5. Independent gastrojejunostomy. 6. Closure of the wound.

He and his brother, Dr. C. H. Mayo, have operated on 41 cases, 37 for cancer and 4 for inveterate ulcer. Of these operations 13 have been made essentially by the plan outlined, with one death. There were 6 deaths in the remaining 28 cases performed by various methods. He does not claim originality for the method; it is a composite operation. He thinks it should be the operation of choice in the average case of fairly early disease of the pyloric region.

43. **Gastric Ulcer.**—MacLaren believes that many cases of perforating ulcer of the stomach can be diagnosed in time, and that the duty of the medical man is to operate at the earliest possible moment, followed by suture of the opening with silk or linen, caulking the opening with gauze. He would sponge out a slightly soiled peritoneum, without drainage; but if there is much fluid in the peritoneal cavity a large drain should be put into the pelvis through a stab-wound over the symphysis and the patient put to bed in the Fowler position. He reports three cases in detail, all encountered in three months.

44. **Cirrhosis of the Stomach.**—Sheldon reports a case and comments on the same. He also reviews the others that have been recorded in the literature, and believes that, in spite of the claims to the contrary by most German writers, benign cirrhosis of the stomach, though a rare condition, does exist. It is difficult to diagnose, but may be suspected in patients presenting symptoms of benign stenosis of the pylorus with contracted stomach. It would be impossible in any case to exclude malignancy. The conditions that would point to it are long-standing disease, absence of hemoptysis, contraction of the stomach, absence of tumor on palpation, absence of glandular or hepatic involvement and general improvement and relief of the stomach symptoms for a period of time when rectal feeding is resorted to. It is not likely to prove fatal until the pylorus has been so nearly closed as to prevent the passage of food. The treatment is necessarily surgical.

45. **Gunshot Wounds of the Abdomen.**—The points emphasized by Harris are stated as follows:

1. In penetrating wounds of the abdomen there are absolutely no known symptoms which indicate injury to any of the viscera, except those in connection with the urinary tract, stomach and occasionally the lower bowel. 2. Except those relating to general shock, all symptoms following such wounds indicate either internal hemorrhage or peritonitis. 3. To wait for symptoms of perforation of the intestine means to wait until peritonitis has developed, therefore, 4. Every bullet or stab wound which penetrates the abdominal cavity should be operated on at the earliest possible moment in order to anticipate the advent of peritonitis. 5. No time should be wasted in attempting to demonstrate the presence or absence of intestinal perforation by such means as the rectal insufflation or gases or vapors, or the analysis of recollected intraperitoneally injected air or liquids. 6. It is essential to systematically examine the entire gastrointestinal canal in all cases, regardless of the point of entrance of the wounding body. 7. Whenever the alimentary canal has been perforated suitable drains (the author prefers the so-called cigarette drains) should be placed either through the operative incisions or counter-incisions, as may appear best suited to the individual case.

46. **Unilateral Hematuria.**—Freeman reports a case and remarks that a prominent cause of renal hematuria, which is often unilateral, is chronic interstitial nephritis, often involving the glomerules. This, with other obscure causes, must be excluded before a diagnosis of "essential hematuria" is made. Decapsulation of the kidney is indicated in these cases as affording a prospect of cure of both the hematuria and the nephritis. Nephrectomy is dangerous on account of the probability of involvement of the other kidney.

47. **Epithelioma of the Urethra.**—Hall reports a case personally observed and 3 others by Drs. Wood and Montgomery communicated to him. He also finds in the literature 21 undoubted cases of epithelioma of the bulbous urethra, which he tabulates. The rarity of the occurrence of this condition must be a mystery, he says. The urethra ought to be a common locality for cancer if Cohnheim's theory of chronic irritation be accepted. If, on the other hand, a specific micro-organism be invoked as the essential cause, it is difficult to understand its immunity, especially when we remember how easily gonococcus infection is established.

48. **Prostatectomy.**—Moore's article is a critical one on the subject of prostatectomy, pointing out its inconveniences and dangers. He thinks it is too grave an operation to be resorted to as a routine treatment, and that it is applicable only in properly selected cases. The dangers of uremia in case of kidney disease, of sepsis, which is an ever present danger, the various complications, such as injury to important blood vessels, peritoneum and nerves, hemorrhage, which, however, is not a very serious danger, the possibility of permanent damage to the urethra and of extensive injury to the bladder in case of suprapubic operation, and in the peritoneal operation, of injury to the rectum, must all be taken into consideration. Moreover, under the present technic, we do not preserve the seminal ducts, and this is certainly a grave complication. Other unfortunate sequelæ are epididymitis, incontinence or dribbling and the possibility of perineal fistula. He does not wish to be classed as a pessimist as regards this operation, but as one who recognizes difficulties with the hope of overcoming them.

50.—See abstract in THE JOURNAL of January 16, p. 191.

51. **Pyothorax.**—Beck reviews the operations for costal and thoracic resection in pyothorax, advocating early preliminary rib resection and condemning aspiration as ineffective on account of the probability of solid masses in the cavity. Back's treatment of aspiration with irrigation has also its drawbacks. The drain may be obstructed, the drainage tube become loose and the exclusion of air impossible. Such patients require much more careful watching than those under ordinary treatment. Simple incision through the intercostal space is undoubtedly effective in the majority of cases, but he does not consider it a good substitute for resection, the alleged difficulties of which have been overrated. He insists on the importance of individualizing in operations, and special caution at the beginning of operation. The author describes the technic in detail, illustrating the article. Two cases are reported.

52. **Pulsating Exophthalmos.**—In the case reported a man 29 years of age was struck on the left parietal region with a bottle. There was no unconsciousness or laceration of the scalp, but the second day afterward the left eye began to protrude and the eyelids to swell. The conjunctival and subconjunctival veins became enormously distended. There was headache for the first week followed by noise in the head. The left eye protruded forward at least one-half of its anteroposterior diameter; the right eye also protruded slightly forward. The operation performed was ligation of the left common carotid by two ligatures, severing the artery between the ligatures. Relief was apparently perfect for the first year; then came a relapse. Murray thinks the mistake made was in ligating the common carotid, and that the chances of recurrence would have been lessened if the internal carotid had been tied. If the patient should return for operation he would follow Woodward's example and ligate and resect the branches of the superior ophthalmic vein at the inner angle of the orbit, and, if necessary, resect a portion of the main vein. In case of failure then ligation of the opposite carotid would be indicated. The case is illustrated.

53. **Lip-Tie.**—While cases of tongue-tie are common, Griffith thinks the condition here described has not been noticed in the literature. In an Italian infant since birth there has been an attachment of the inner surface of the middle line of the entire upper lip to the gum by a fold of tissue continuous with the mucous lining of the mouth, about an eighth of an inch in thickness. When the mouth is opened the middle of the upper lip is rolled directly inward, giving rise to a peculiar expression not apparent when in repose. The treatment consisted in cutting through the protrusion half way up its extent and tearing through the remaining portion. There was a temporary hemorrhage from the operation. The result is not stated, but was probably good.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

February 29.

54 *Short Supplement to Dr. Barton Cooke Hirst's Paper on the Treatment of Puerperal Eclampsia. James Tyson.

55 *Plastic Surgery in the University Maternity for the Year 1903. Barton Cooke Hirst.
56 *Note on Cerebrospinal Symptoms in Infectious Diseases Apropos of a Case of Typhoid Fever. Alfred Gordon.
57 *Condition of the Blood in Patients Suffering from Pulmonary Tuberculosis. John M. Swan.
58 Two Cases of Death from Hemorrhage During Pregnancy. Mordecai Price.

54.—This article has appeared elsewhere. See abstract in THE JOURNAL of April 16, ¶80, p. 1050.

55.—This article appeared in THE JOURNAL, March 5, p. 646.

56. **Cerebrospinal Symptoms in Infectious Diseases.**—Gordon reports a case of typhoid in which there was a total motor aphasia, agraphia, word blindness, right hemiplegia, including the face, though not pronounced, and slight hyperesthesia of all forms of sensation on the same side, rigidity of both lower extremities with ankle clonus, greatly exaggerated patellar reflexes, and the Babinski sign on both sides. The patient could not stand unsupported or walk, and there was incontinence of both urine and feces. With this there were no hysterical stigmata, and the previous history made Gordon reject functional nervous disease as the cause. At the time the examination was made the patient had entered into convalescence and made an uninterrupted recovery and left the hospital in perfect health. He thinks the case is instructive, for the following reasons:

1. An apparently mild case of typhoid fever without any complication in other viscera may affect the whole cerebrospinal system simultaneously. 2. The nervous symptoms may be pronounced and multiple in spite of the mildness of the original disease. 3. These multiple and marked organic symptoms may be out of proportion to the general condition of the patient, as, generally speaking, we know that the more the infectious disease is pronounced in its course, the more profound is the toxemia, and the more symptoms of complications can be expected. 4. The prognosis is usually favorable in cases in which disproportion is present, as these apparently alarming symptoms are only transitory in character. The case is also unusual from this point of view, that if aphasia and hemiplegia in the course of typhoid fever were rarely observed, agraphia and word-blindness, to my knowledge, were not reported.

57.—This article appeared in THE JOURNAL, March 12, p. 696.

Archives of Pediatrics, New York.

March.

59 *Clinical Study of 62 Cases of Intestinal Infection by the Bacillus Dysenteriæ (Shiga) in Infants. L. E. LaFetra and John Howland.
60 *Concerning the Nature of Still's Type of Chronic Polyarthritis in Children. David L. Edsall.
61 Hemorrhagic Diseases in Children. Wm. L. Stowell.
62 Hernia of the Vermiform Appendix with Adhesion to Epididymis in an Infant. Henry L. K. Shaw and E. McD. Stanton.
63 Report of a Case of Perforation in Typhoid Fever in a Child of 6 Years. John H. Jopson.

59.—This article has appeared elsewhere. See THE JOURNAL of March 26, ¶26, p. 855.

60. **Chronic Polyarthritis in Children.**—Edsall reports a case of the type of chronic joint disease described by Still, characterized by marked enlargement of the lymph nodes, usually of the spleen, a tendency to irregularity and at times a marked fever, absence of bone deposits, and the fact of its occurrence in young children. From his study of the case he is inclined to believe that the child had a widespread tuberculosis of a low degree of virulence, which enabled him to kill off large numbers of tubercle bacilli, and, finally, to control the progress of the disease. The case presented the tuberculin reaction and microscopic examination of the lymph nodes, while at first it showed no tubercle bacilli, and inoculation experiments were negative, an emulsion from several of the lymph nodes showed a large number of acid-fast bacilli having the typical appearance of tubercle bacilli. Dr. Ravenel, who made the examination, has no doubt but that the bacilli seen were tubercle bacilli, especially in view of the violent tuberculin reaction. The case is one which was also mentioned in a former paper noticed in THE JOURNAL of January 23, p. 271.

American Journal of Obstetrics, New York.

March.

64 *Anesthesia in Abdominal Surgery. J. J. Gurney Williams.
65 *Duplex Placenta. Henry F. Lewis.
66 Report of a Case of the Invasion of a Fibromyoma of the Uterus by an Adenocarcinoma, Which by Metaplasia Had Assumed the Appearance of a Squamous Cell Sarcoma. Charles P. Noble.
67 Etiology and Pathology of Appendicular Inflammation. Louis Frank.
68 Three Nephrectomies, Presenting Features of Interest to the Gynecologist. Reuben Peterson.
69 Immediate Repair of Lacerations After Labor. Strickler Coles.
70 Consideration of Combined Ectopic and Intrauterine Pregnancy, with Report of Case. F. F. Simpson.
71 Ectopic Pregnancy. Henry D. Ingraham.
72 Intra-abdominal Torsion of the Omentum. Thomas B. Noble.
73 Acute Anterior Poliomyelitis. Geo. N. Acker.
74 Report of Three Cases of Esthiomene. Emil E. Guenther.
75 Abdominal Section During Pregnancy, with Report of Six Cases. X. O. Werder.
76 Choice of Methods for Closing the Abdominal (Parietal) Incision. Edwin Ricketts.

64. **Anesthesia in Abdominal Surgery.**—Williams insists on the importance of a skilled anesthetist, and thinks the selection of an anesthetic of less importance than the selection of the one to administer it. He has no fear of chloroform in abdominal surgery, and believes that in careful hands it is a safer substance than many believe. In the vast majority of cases, however, ether will be employed. It has the advantage that it is nearly always possible to procure a fresh supply, and so far as statistics go, is safer. The patient can be placed under anesthesia in a large number of cases quite as easily and quickly as under chloroform, keeping the patient in pretty much the stage desired, while with chloroform he has seen the patient go quickly from the sensation of pain to deep narcosis. When we are compelled to place the anesthesia in unskilled hands it is safer than chloroform. When organic heart disease is present, ether for the time stimulates the heart; he has seen the patient leave the table in a better cardiac condition than before the operation. He has administered ether to alcoholics, tuberculous cases, and cases of pathologic kidneys, and thinks it is as safe as any general anesthetic, if not safer. His plan is to administer the ether on a square of gauze of about twenty layers, allowing a few drops to fall on the center of the pad, letting the patient "see what it is like" by holding it several inches from the face. This is followed by a request to close the eyes and breathe as he wishes, but stating the benefits of slow, deep inspirations. Still holding the gauze so as not to touch the face, ten or twelve drops are added, carefully avoiding the eyes; in the majority of cases the amount can be increased every few seconds until thirty or forty drops are added each time, the pad being brought close to the nose and mouth, never covering the eyes, and allowed to stay there during the operation. When the patient has been fully etherized, the anesthesia may be given by dropping ½ or 1 dram over the nose tip every minute or so, or using the "drop method" as in chloroform anesthesia. One very important point is to turn the towel over after each addition in the former method, and every few minutes in using the drop method. Whenever possible he prefers to keep the gauze an inch from the face, allowing a certain admixture of air. This can often be done in acute septic and feeble cases. Unless absolutely necessary never request an anesthetic to be given to any one suffering from an "acute cold." During appendicitis and bowel-stitching operations, vomiting and retching are to be strictly avoided, and a few inspirations of air followed by several drops of fresh vapor will usually overcome this tendency. Heaving of the abdominal wall and efforts to swallow seen early in the administration indicate the attempt to vomit; in this case, push your anesthetic. When occurring late in the operation, the patient needs air; withdraw the vapor, gently push the jaw forward and turn the head to one side. It is proper, Williams says, to inform the operator of failing pulse or respiration. Always withdraw the anesthetic when tapping a large cyst or ascites, and when removing bulky fibroids, keep it withdrawn until the patient shows signs of returning consciousness. The anesthetist's endeavor should be to administer vapor so carefully that the transition from one state to the next is a slow agreeable process, void of all sensation of suffocation. Two points to bear in mind are that the average time is eight minutes and the amount four or five ounces.

65. **Duplex Placenta.**—Lewis describes the condition and insists on the importance of examining the edges of the afterbirth with sufficient care so that one can be assured that nothing has been left behind in the uterus. The membrane should be held up to the light to see whether there are any vessels running off from the margin of the placental disc. If so they

should be traced and the spot where they end scrutinized for evidences of the tearing away of an accessory lobe or a succenturiate portion. If it appears that a piece of any but the very smallest size has been retained in the uterine cavity the hand must go in search of it and remove it.

University of Pennsylvania Medical Bulletin, Philadelphia.

February.

77 *Early Diagnosis of Cirrhosis of the Liver, Considered from the Pathologic Standpoint. W. W. Ford.
78 *Early Manifestations of Cirrhosis of the Liver Previous to the Appearance of Physical Signs. Charles G. Stockton.
79 Clinical Chemistry of Disease of the Liver. David L. Edsall.
80 Certain Peculiarities of the Inductorium. Colin C. Stewart.
81 Spontaneous Agglutination of Blood Cells of Arthropods. Leo Loeb.

77. **Cirrhosis of the Liver.**—Ford has analyzed the cases of cirrhosis of the liver encountered in the first 500 autopsies in the Johns Hopkins Hospital. He finds that advanced cirrhosis occurred as a direct or accessory cause of death in 49 cases, or 1 in 10. The majority were cases of atrophic cirrhosis in which an excessive fibrous tissue production masked the initial changes. Twenty-nine cases were definitely associated with arteriosclerosis, either alone or in association with primary cardiac disease or secondary heart changes induced by primary sclerotic changes in the kidney. Next in frequency to these cases of arteriosclerosis come the cases of syphilitic cirrhosis of the liver. In 14 cases of syphilitic hepatic disease, interstitial hepatitis occurred in but 6. The other 14 cases of cirrhosis present the most diverse pathologic findings. A few seemed to be associated with chronic infectious processes elsewhere. In some, among other conditions, there was chronic suppuration of the genitourinary tract, cholelithiasis, peritonitis, etc. Only 2 of the whole series were hypertrophic. He next discusses the initial changes leading to interstitial hepatitis, and the evidence of existence of these changes in the 500 autopsies. He found parenchymatous degeneration of the liver cells in 26 cases without any increase in the fibrous tissue. Fatty degeneration was found in 158 cases and fatty infiltration in 18 cases, but apart from the cirrhotic cases there was no increase of interstitial tissue observed. In practically all the cases, with the very few exceptions noted, the cases of beginning cirrhosis of the liver were associated with renal disease, cardiac affections and arteriosclerosis. No case of advanced cirrhosis of the liver has been seen in Baltimore in connection with chronic malarial intoxication. He remarks on the experimental, apart from the clinical, data as to the production of cirrhosis, and says there seems to be little doubt but that alcohol has much to do with the production of the condition, but from the experimental standpoint there is no very reliable evidence that alcohol alone can cause fibrous proliferation. Alcohol of itself is not sufficient to start tissue proliferation. Experimental cirrhosis in spite of all the work that has been done, is only in exceptional cases sufficiently definite to bear searching pathologic criticism. The essential factor in the production of fibrous tissue increase can not be made operative. What that factor is can only be determined clinically. We may eliminate from consideration all syphilitic cases, cases of chronic infection and the rarer cases of anthracotic cirrhosis or of malarial cirrhosis, and the few cases of biliary cirrhosis dependent on disease of the bile passages, and still have left the vast majority of cases of atrophic cirrhosis and a considerable number of cases of beginning cirrhosis in all of which the hepatic disturbances are part and parcel of some more general disturbances of nutrition whose pathologic effects operate on kidney, heart and liver alike, but whose primary etiologic factors are as yet unknown.

78. **The Early Manifestations of Cirrhosis.**—Stockton concludes from a study of the subject that subjecting the question to careful scrutiny and analysis there seems to be no positive data from a clinical standpoint on which a developing hepatic cirrhosis may be predicted.

New York State Journal of Medicine, New York.

April.

82 *Remarks on the Gunshot Wounds of the Civil War. Robert F. Weir.
83 *Some Features in the Modern Treatment of Gunshot Wounds. Louis A. LaGarde.
84 *Knowledge of the Eye That Is of Use to the General Practitioner. S. Busby Allen.
85 *Minus Cylinders—Those Who Prescribe Them and Those Who Wear Them. F. W. Higgins.
86 Arteriosclerosis and Its Bearing on Certain Lesions of the Retina and Optic Nerve. Charles S. Bull.
87 *Dysmenorrhea. Charles L. Bonifield.
88 Address—Need of More Unity Among Members of the Profession. S. J. Sornberger.

82. **Gunshot Wounds.**—Weir's paper describes the type of missile wounds received during the Civil War, noticing a number of interesting anomalous cases and calling particular attention to the contrast between the methods then in vogue and those at present practiced. He also refers to the medical or surgical malingerer, a very striking type of fraud on the government, and mentions his methods of exposing the humbug.

83. **Modern Treatment of Gunshot Wounds.**—La Garde describes his experience in the Spanish-American and South African wars as well as accidental gunshot wounds such as the toy pistol injuries and their sequelæ of tetanus. The character of the lesion in gunshot wounds favors all infections, though tetanus is the most frequent and fatal one. The great danger in military practice is the environment; the removal of lodged missiles has to be forbidden at the front, while in civil practice it is imperatively indicated. The remote consequences of gunshot wounds, thanks to antisepsis and the x-ray, have been reduced to a minimum. He considers the fatality of gunshot wounds of the head as great as it was by old arms; glancing wounds are less frequent. The modern projectile is less septic, and chest wounds are considered among the hopeful class at present. In conclusion he calls particular attention to the experimental work in this line; it is only by the results of such that the modern treatment of gunshot wounds can be intelligently formulated.

84. See abstract in THE JOURNAL, xli, p. 1224.

85. **Minus Cylinders.**—Higgins' article is written with the special intent of calling attention to the evils from ignorant prescribing of minus cylinders. He insists that to prescribe glasses properly requires a medical training.

87. See abstract in THE JOURNAL, xli, p. 1159.

California State Journal of Medicine, San Francisco.

April.

89 Recent Epidemic of Smallpox in California. Daniel Crosby.
90 *The Rat and His Parasites: His Rôle in the Spread of Disease, with Special Reference to Bubonic Plague. B. J. Lloyd.
91 *What Causes Appendicitis? D. A. Stapler.
92 The Legal Definition of the Practice of Medicine. William C. Tait.
93 A Few Remarks on the Treatment of Primary Glaucoma. C. S. G. Nagel.
94 Neuralgia and Some of Its Clinical Features. Paul Sanford.
95 Asepsis; Especially in the Practice of Obstetrics. J. W. Graham.

90. **The Rat and Its Parasites.**—Lloyd enumerates the numerous parasites to which the rat is subject, including species of tremotada, cestoda, and nematod worms, many of them in common with man; various protozoa, particularly *Trypanosoma Lewisi;* among the insects, the flea, which has its part in the transmission of disease; among the vegetables, the favus organism. He mentions further the danger from rats in regard to plague, showing from the history how plague may linger in the sporadic form for years in a city, and then under favorable circumstances explode, so to speak, into a violent pestilence. The non-contagious nature of the disease in the stricter sense of the word is emphasized.

91. **Appendicitis.**—Stapler insists that appendicitis is caused through loss of tissue with subsequent infection. This loss of tissue may be caused by capillary hemorrhages due to infectious diseases or overexertion or by foreign bodies. No appendicitis without infection, he says, and no infection without loss of tissue.

Bulletin of the Johns Hopkins Hospital, Baltimore.

February.

96 *Historic Outline of Cardiac Pathology and Clinical Aspects of Chronic Myocarditis. C. N. B. Camac.
97 *Efficiency of the Periureteral Arterial Plexus, and the Importance of Its Preservation in the More Radical Operations for Carcinoma Cervicis Uteri. John A. Sampson.
98 Two Cases of Leukokeratosis Buccalis; Comparison with the Histologic Changes in a Case of Tylosis Palmæ et Plantæ. Sylvan Rosenheim.

99 *Effects of X-rays on Lower Animal Life and the Tube Best Suited to Their Destruction. Kennon Dunham.
100 *An Anopheles Mosquito Which Does Not Transmit Malaria. Leonard K. Hirshberg.

96. **Myocarditis.**—In the conclusion of his article Camac emphasizes the following points: The normal anatomy and physiology of the heart must be closely studied by the clinician. A knowledge of the pathologic anatomy and physiology is also essential. His study of myocardial disease must be greatly extended by bedside observation, and to do this there must be an honest limitation of the clinician's conclusions to the evidence at hand. The diagnosis must be made in the early stages. Even with the best methods, the diagnosis of chronic myocardial disease at least is difficult, and its nature obscure.

97. **Periureteral Arterial Plexus.**—Sampson insists on and demonstrates the importance of the arterial plexus surrounding the ureter, imbedded in its perimuscular fibrous coats. The complete dissection of this plexus for a very short distance, or its partial resection, if combined with ligation of the vessels supplying the vesical end of the plexus, is apt to cause necrosis. He insists on guarding this plexus in operations, though experience shows that the ureter can stand a good deal of interference. The ureter has been freed for its entire length without necrosis. Both the internal iliac, ovarian and vessels of the round ligament have been tied without producing such results. On the other hand, when the ureter is dissected free from some adherent mass, even for a short distance, there is danger of necrosis, and this danger is increased after operations on account of cancer of the cervix, where the vessels supplying this portion of the ureter are ligated. Other etiologic factors of necrosis are infection, exudates, the use of the cautery, the pressure of foreign bodies, such as gauze, stricture, and a lowered general resistance. In performing hysterectomy in case of carcinoma of the cervix uteri there is danger of ureteral necrosis in the radical operation. Resection of the lower .75 cm. of the ureter and implantation of the renal end into the bladder offers the best chance of cure, with less danger of ureteral necrosis in such cases. In any operation the periureteral arterial plexus and the ureteral sheath should be preserved. The article is illustrated by figures showing the ureteral plexus and its blood supply.

99. **Effects of X-Rays on Lower Animal Life.**—From his extensive experiments, the technic and details of which are described, Dunham concludes that the best rays to destroy epitheliomatous and sarcomatous cells are those from the lower tube excited by a heavy current with much resistance. The closer to the object treated the more destructive the rays. Very high tubes have little effect. By the use of controls he eliminated as the destructive force any other agency than the *x*-ray, and also established the analogy between the susceptible lower organisms and new malignant cells.

100. **The Anopheles Mosquito.**—From observations made on the incidence of malaria and the distribution of *Anopheles maculipennis* in the neighborhood of Baltimore, Hirshberg concludes that this species is not usually a conveyor of the malarial organism. He thinks the absence of any reference in the literature to the species as having been found bearing parasites is also corroborative. Farther than this he does not care to go.

Indiana Medical Journal, Indianapolis.

April.

101 Value and Importance of Vital Statistics. A. S. Tilford.
102 Study of Medicine in Vienna. H. H. Wheeler.
103 Non-syphilitic Paralysis of the Ocular Muscles. J. L. Masters.
104 Report of the English Cancer Research Society; Treatment of Malignancy by Finsen Light and X-ray. Bernard Erdman.

Clinical Review, Chicago.

April.

105 Prenatal Syphilis. Wm. Rittenhouse.
106 Hysteria. L. Harrison Mettler.
107 Importance of Careful Refraction. F. W. Kettlestrings.
108 Diagnosis of Febrile Diseases of Childhood. N. Filatov.

Toledo Medical and Surgical Reporter.

April.

109 Phlegmasia Alba Dolens. Frank P. Wilson.
110 Report of a Case. Stab Wound of Thorax and Abdomen. Christian Storz.
111 Medical Work in China. Mary Ketring.

Mobile Medical and Surgical Journal.

March.

112 Flies and Mosquitoes as Carriers or Propagators of Diseases. W. M. Wilkerson.
113 Renal Surgery. G. Edward Gavin.

Buffalo Medical Journal.

April.

114 Diagnosis of Cholelithiasis and Cholecystitis, with Remarks on Medical Treatment. Charles G. Stockton.
115 Uterine Myomata. A. L. Beahan.
116 Reminiscences of Buffalo General Hospital. Devillo W. Harrington.
117 Justifiableness of Exploratory Operations. Eugene A. Smith.
118 Cholelithiasis. W. E. Dignen.

Cleveland Medical Journal.

April.

119 Deaf Mutes. Report on Examination of Pupils of the Cleveland School for the Deaf. Albert R. Baker.
120 Is a Marked Diminution in the Amount of Urea Excreted During Pregnancy an Indication of Threatening Puerperal Eclampsia? F. S. Clark.
121 Cause of Infection of the Water Supply of Butler, Pa. Martin Friedrich.
122 Specimen of Pseudarthrosis or False Joint of the Ulna. Myron Metzenbaum.
123 Report of a Case of Belladonna Poisoning. J. J. Thomas.

Fort Wayne Medical Journal Magazine.

March.

124 Colles' Fracture. Charles C. Miller.
125 Diseases in the Sigmoid Flexure. L. R. Fast.

Canadian Journal of Medicine and Surgery, Toronto.

April.

126 The Baltimore Tuberculosis Exposition. J. H. Elliott.
127 Nevus Lipomatodes. A. Primrose.
128 Uterine Fibromyoma with Pyosalpinx. W. H. Pepler.

Mississippi Medical Record, Vicksburg.

April.

129 Case of Re-establishment of Menstruation After Ovariotomy. W. C. Elliott.
130 A Study of the Mosquito. Thomas Hunter.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London.

April 2.

1. Some Laryngologic, Rhinologic and Otologic Experiences. John Bark.
2 *The Pathology and Surgery of Certain Diseases of the Pancreas. A. W. Mayo Robson.
3 The Precipitin of Cobra Venom. George Lamb.
4 *A New Method of Testing the Blood and Urine, with Special Reference to the Determination of the Excretory Efficiency of the Kidney. A. E. Wright and J. Newport Kilner.
5 *Remarks on the Relations of Pulmonary Tuberculosis to Other Diseases. F. Parkes Weber.
6 *Two Cases of "Corset Cancer," with Remarks on the Origin and Spread of Cancer. R. Clement Lucas.
7 A Topographical and Clinical Study of Fibroids of the Neck of the Uterus (Cervix Fibroids). J. Bland Sutton.
8 Case of Sloughing of the Central Part of a Uterine Fibromyoma Shortly After Delivery. John D. Malcolm.

2. **Pancreatic Disease.**—Robson's third lecture begins with a discussion of pancreatic cysts, the symptoms of which vary, according to the size and seat of the tumor, though there have been exceptional cases presenting very few symptoms and requiring no active treatment. Occasionally excision may be performed. Aspiration is more dangerous than free incision and drainage. The situation for the drainage must vary according to the circumstances. He gives his own experience, and a search through the literature reveals 160 cases operated on, 140 of which have recovered or cure is supposed to have taken place. Injuries of the pancreas have been thoroughly written up by Mikulicz-Radecki and he passes over them to the subject of pancreatic calculi, which as a rule show no calcium carbonate and are opaque to the Roentgen rays, an important point for the diagnosis. As these are generally associated with serious and usually progressive disease their diagnosis is of importance. He considers their treatment by sialagogues useless and surgical treatment as probably now offering a chance of cure. He would incise about one and a half inches to the right of the middle line, split the right rectus and lengthen the incision upward or downward as needed. If the opening of Wirsung's duct has to be explored the second part of the duodenum is to be incised, the papilla laid open and any

impacted calculi removed. If they are more deeply placed in the ducts, the organ may be explored either through the gastrohepatic omentum or reached through a slit in the omentum, the calculus cut down on and extracted by a scoop or forceps. The hemorrhage must be arrested by ligatures. The duct can be sutured and the incision in the gland brought together by buried sutures, the peritoneal covering being coapted by a continuous suture. If leakage is feared a gauze drain may be inserted. When the duodenum is opened it must be closed in the usual way. The incised papilla need not be sutured. Medical treatment of malignant disease is purely symptomatic. Palliative operations for the relief of cancer and pancreatitis associated with jaundice are useless. Even if the operation is survived life is not very much prolonged. Sarcoma and carcinoma occurring in the tail of the pancreas may be removed with some chances of recovery, and if the disease is primary and no secondary growth or glandular involvement has occurred, great prolongation of life is possible.

4. **Blood and Urine Testing.**—The principle of the method described by Wright and Kilner is as follows: A standard quantity of normal red corpuscles in a measured volume of salt solution of standard strength furnishes a test fluid. The urine or blood serum from which that urine is derived is mixed in progressive dilutions in a capillary tube with measured volumes of the standard suspension of red blood corpuscles. The point is determined at which the urine or serum has been so far diluted as to allow of complete hemolysis with the standard suspension. From these data taken in association with the data obtained on diluting the suspension with progressive dilutions of decinormal sodium chlorid solution, the concentration of the serum and urine is calculated. The quotient obtained by dividing the latter by the former is denoted the excretory quotient. The method of forming the standard suspension of red blood corpuscles is given and a number of cases illustrating the process are tabulated.

5. **Tuberculosis.**—Weber discusses the reciprocal relation between tuberculosis and other diseases, pointing out the association of congenital pulmonary stenosis with a predisposition to tuberculosis from not only the imperfect blood supply, but the defective general development. Amyloid disease of the liver is a very rare complication, but fatty liver is so frequently found that a causal connection between the two diseases is generally admitted. Cirrhosis is not rarely found associated with tuberculosis of the lungs or peritoneum, and in a few cases may be due to tuberculosis itself. Alcoholism is evidently a cause in many cases and kidney disease is a very serious complication, usually the result, he thinks. Gout is rarely associated with pulmonary tuberculosis, and this is possibly due to the meat diet and the more generous fare of gouty subjects. There are, however, marked exceptions to the rule of the antagonism of two diseases in persons addicted to alcoholism, and those with general decrepit constitutions. There is sometimes supposed to be an antagonism between cancer and consumption, but there are a great many apparent exceptions. Cancerous patients, however, are generally advanced in life, and have lived well, which may have something to do with the apparent exemptions. Lymphadenoma tends to become associated with tuberculosis and diabetes mellitus is a very common associated disease. Syphilis has been remarked as having a special antagonism, but the majority of French writers think that it predisposes to tuberculosis by lowering the general condition, and that there is some causal relation between the association of multiple neuritis of the alcoholic type and pulmonary phthisis.

6. **"Corset" Cancer.**—Lucas reports two cases which he thinks demonstrates a site of origin of cancer dependent on the friction of the upper edge of a corset where it crosses the anterior fold of the axilla. He has credited this largely to chronic irritation, but supposing the cancer to be due to an organism from without, rubbing in of the organism might be amply effective. The author referred to other sites of origin associated with irritation or disease, and syphilis also producing injuries sometimes proves to be the fore-runner of cancer. Inoculation and contagion were also considered and the infection theory as well as recent observations showing the pictures of mitotic changes in the cancer cells.

British Medical Journal, London.

April 2.

9 *The Detection of Early Tubercle in the Lungs. Isambard Owen.
10 *The Early Diagnosis of Tuberculosis of the Lungs. C. G. H. Baumler.
11 Pathology and Surgery of Certain Diseases of the Pancreas. A. W. Mayo Robson.
12 The Chemistry of the Urine in Diseases of the Pancreas. P. J. Cammidge.
13 The Adaptation of the Pancreas. F. A. Bainbridge.

9. **Tuberculosis.**—Owen mentions some of the diagnostic points of early tuberculosis, remarking, first, that many cases do not advance beyond the early stages as shown by post-mortems. In case of tubercle attacking the serous membranes and the patient surviving, the tendency toward permanent arrest of the new growth is marked, but in the loose tissue of the lung it is more apt to progress. There may, nevertheless, be intermissions, though the bacillus can still be detected, and these remissions would have attracted more attention were it not for the fact that they have been attributed generally to the treatment given. In most cases of chronic tubercle, therefore, we have a mixed morbid anatomy, some fibrous scar tissue and some caseous material of different dates. The chief physical signs are those of consolidation or the presence of what is called tubular or harsh breathing, change in the voice sounds and dullness on percussion. The hearing of well-marked tubular breathing over the chest wall implies that over the area covered by the stethoscope, the superficial layer, at least, of the lung is enough to conduct the sound to the surface, and at the same time abolish the normal vesicular murmur. The actual depth of the superficial layer is difficult to say, but he thinks it does not exceed half an inch. Harsh breathing, associated with voice changes, however, is still more significant and well marked bronchophony must indicate a rather extensive tract of consolidation. The result of percussion may be less marked and does not always correspond with the actual condition of things; sometimes the affected apex is the more resonant of the two. He advises the use of both light and deep percussion, comparing the results. If it is more marked with the light than with the deep percussion there is probably a thickened pleura. If the reverse obtains it suggests a deeply seated patch of consolidation. The question what consolidation really means is of importance, whether it consists of grey granulations, of fibrous scar or of bronchopneumonic products. Moist sounds during inspiration may indicate granulations, though not necessarily a breaking down of the tissue. Clicks at the end of inspiration are formally diagnostic of tubercle, but they may occur at later as well as earlier stages. Tuberculous crepitations may be accompanied by light, dry and wheezing rhonchi, which differ from the asthmatic or catarrhal type by being more localized, but if neither moist sounds nor rhonchi can be found it does not necessarily follow that the condition is not progressive. A daily rise of temperature and progressive loss of weight are almost formal evidence of advanced tuberculosis, even if the physical signs fail. Cavernous breathing is also mentioned, and it may be noticed even over small cavities, but it may also be heard with the stethoscope brought near the trachea, which suggests caution in its estimation. Pectoriloquy is of less value than cavernous breathing, and is not always heard over small cavities, and may be heard where no cavities exist. The earliest physical sign is usually neither dullness or harsh breathing or alteration in the voice sound, but a local change in the character of the bronchitic rhonchus, which ordinarily does not change.

10. **Tuberculosis.**—Baumler calls special attention to the early involvement of the apices, the loss of weight, the temperature signs, strictly localized and persistent râles of various kinds, fine crepitations heard over a limited area, disappearing or being replaced by coarser râles, etc.

Journal of Tropical Medicine, London.

April 1.

14 *Etiology of Scurvy. Myer Coplans.
15 Cold Weather Mosquito Notes from India—Malaria in Umritzar and Its Causes. (Continued.) G. M. Giles.

14. Scurvy.—The incidence of scurvy in the Transvaal in the burgher camps among soldiers and natives is described by Coplans, who can not find adequate proof that the food factor is the cause. The clinical facts also would seem to oppose the contention. The infection, however, seems to occur through the mouth, the general system being involved later and secondarily, but how the primary infection occurs and how it gives rise to disease in the mouth is not capable of being definitely stated and needs further investigation. He thinks the facts adduced seem to prove that scurvy is not due to either the presence or absence of any particular kind of food, but rather to infection for which food may act as a vehicle under conditions of dirty storage or dirty preparation. Considering that the disease prevailed in inverse proportion to the standard of personal hygiene of the individuals infected, the infectivity seems to depend on the sanitary habits and perhaps unwholesome occupations.

Indian Medical Gazette, Calcutta.

March.

16 Short Note on the Parasite of Kala-Azar. Charles A. Bentley.
17 Enlarged Prostate. (Continued.) W. J. Wanless.
18 The Blood Examination of 3,400 Cases of Febrile Disease in Bombay. Seasonal Prevalence of the Different Malaria Parasites. Diagnosis of the Variety of the Young Stained Parasites. (Continued.) Arthur Powell.
19 Infant Mortality. H. Sen.

Presse Médicale, Paris.

20 (I, No. 17.) *L'insuffisance respiratoire. Traitement par la gymnastique et la rééducation respiratoires. G. Rosenthal. Second article in No. 23.
21 *The Milk Question. P. Diffloth.—La question du lait au point de vue zootechnique.
22 Le bain de siège (sitz bath). A. Zimmern.
23 (No. 18.) Le centenaire de l'Internat. M. Letulle.
24 La ration alimentaire des neonatorum. V. Bue.
25 La jéjunostomie dans le traitement du cancer de l'estomac. La jéjunostomie en V. P. Riche.
26 (No. 19.) *L'alimentation en eau pure. Abstract.
27 Cure radicale de l'hernie crurale. Guibé and R. Proust.
28 (No. 20.) *Opothérapie gastrique. La dyspeptine. Maurice Hepp (Paris).
29 (No. 21.) Hommage au professeur Cornil. See page 903.
30 Enseignement théorique de la pathologie médicale. E. Brissaud.
31 (No. 22.) Les rayons N. Leur recherche dans quelques affections du système nerveux. G. Ballet. See page 928 and editorial page 1023.
32 (No. 23.) Hospitalisation des tuberculeux. E. De Lavarenne and M. Letulle. (Continued from Nos. 20 22.) See page 843.
33 L'alliance d'hygiène sociale à Nantes. E. Fuster.
34 *Sphygmomètre. Mladoveano (Bukharest).

20. **Breathing Exercises.**—Rosenthal urges that the profession take personal charge of the physico-therapeutic measures which time is proving of such vast importance. This applies particularly to gymnastic respiratory exercises as a preventive and curative measure for affections of the air passages. He asserts that Knopf in his memoir on the subject in 1901 merely confirmed and realized the ideas which Marfan, Grancher and Jaccoud of France had long been preaching. It is as absurd to breathe through the mouth, he claims, as it would be to eat through the nose. In taking the chest measure he has found it useful to have a tape in which the inches are marked off toward each end from a central point which is placed on the spine. This reveals any asymmetry at a glance. He has found that the diaphragm may be subject to incompetency, inco-ordination or unilateral paresis. This insufficiency of the diaphragm is revealed by the immobility of the lower ribs and interspaces. As the subject reclines the abdominal wall is likewise immovable, with other signs almost simulating pleurisy. Radioscopy will clear up the diagnosis. The subjects for whom respiratory exercises are particularly indicated are the "false adenoidians," and cases of nervous nasal obstruction. Also of pseudo-hypertrophy of the heart in growing children. In the latter case the heart is normal but the chest has not grown to keep pace with it. Exercises in deep breathing are the elective, rapid and specific means of restoring the balance in these cases. He also states that the prolonged course of convalescence after infectious diseases is in many cases due to the lack of sufficient respiration. Appropriate exercises would materially shorten the convalescence. Keeping the patient out of doors is a blind means of accomplishing what is needed, but appropriate exercises are the systematic application of the same principle which is both preventive, therapeutic and for after-treatment. Such exercises are the specific preventive of tuberculosis. In conclusion he comments on the dangers of inertia of the diaphragm, which affects secondarily the functions of the liver, intestines, etc. Every inflammatory affection of the peritoneum near the diaphragm is liable to limit the excursions of the diaphragm, while gaseous distension of the abdomen or its organs or pregnancy has the same effect temporarily, which may, however, outlast the cause.

21. **Zootechnical Side of the Milk Question.**—Diffloth refers to the way in which cows have been bred to produce the maximum of milk, and remarks that this exploitation of the milk-producing function for commercial purposes is contrary to nature, and has perhaps unfitted the milk for the use of infants.

26. **Sterilized Drinking Water.**—The Lepage apparatus is briefly described with an illustration, and its use recommended for barracks, ships, private houses, etc. It boils and cools the water still in the pipes in which it is brought into the building. The water first collects in a tank like that for a water-closet and passes downward in a small pipe. The pipe then broadens to about six times its former diameter and passes straight upward to the level of the tank, opening into a small conical receptacle, the point upward, terminating in a curving pipe. A gas jet below this conical receptacle keeps the water boiling and by expansion it passes on into the curving pipe above whence it drips, a drop at a time, into a much wider part of the pipe, paralleling the upright pipe above mentioned. The boiled water thus stands in contact with the cold water in the first upright, which cools it and it is drawn from a faucet as needed. The illustration shows that the curving pipe is above the level of the water in the first tank, and consequently the water can not pass on unless it is first expanded by the action of the heat under the boiler receptacle.

28. **Treatment by Artificially-Obtained Natural Gastric Juice.**—Hepp was formerly interne of the Paris hospitals and has been meeting with great success in his efforts to supply a natural gastric juice for therapeutic purposes. He obtains it by a Pawlow opening into the stomach of pigs. The gastric juice thus obtained keeps indefinitely after filtration if sheltered from light and air, and has fully established its usefulness in cases of gastric insufficiency, especially those due to dyspepsia from atony, inadequate secretion of gastric juice, in the gastro-intestinal disturbances of nurslings consecutive to acute enteritis, and in the stomach troubles of tuberculous subjects. It has also proved its value in the gastric troubles of chlorotics, of over-fatigued and neurasthenic subjects and of pregnant women. It is generally taken during the meal, one to three tablespoonfuls of the limpid fluid being added to some beverage, beer, lemonade, champagne or some mineral water. It is sometimes best to refrain from telling the patient the character of the medicine he is taking.

34. **Sphygmometer.**—Mladoveano has applied the sphygmograph to determine the arterial pressure at the wrist, and gives an illustration of the instrument modified for the purpose. It supplies a force to crush the artery, indicates when the artery is crushed and the blood current thus interrupted, and registers the pressure. His modification can be added to any sphygmograph and transform it into a sphygmometer without interfering with its other uses.

Semaine Médicale, Paris.

Last indexed page 1054.

35 (XXIV, No. 10.) *Le traitement chirurgical de la paralysie faciale. F. Munch (Paris).
36 *Le "signe du tapotage" dans la phthisie pulmonaire avec cavernes. H. Erni (Gersau).
37 Un symptome exceptionnel et non encore signalé des fistules esophago-trachéales: Aérophagie. E. Adenot and L. Cadet. Abstract.
38 Recovery from Spasmodic Spinal Paralysis. Nicod-Laplanche. Abstract.
39 *Nouvelle methode de suspension du testicule dans la cure radicale du varicocèle. F. Carta. Abstract.
40 Procédé à double suture pour la cure de l'entropion cicatriciel. A. Galiani. Abstract.
41 (No. 12.) *Diagnostic et traitement des accidents dus aux adhérences et aux brides péritonéales. F. Lejars (Paris).
42 La microgastrie primitive. I. A. Bendersky (Kiev). Abtract.

35. **Surgical Treatment of Facial Paralysis.**—Munch reviews the experiences in this line in America, France, Germany and Great Britain. The results apparently establish that grafting the facial on some neighboring nerve is capable of restoring a certain tonicity to the paralyzed muscles and thus attenuate the asymmetry of the face in the fortunate cases. But it is unable to restore to the muscles their spontaneous movements, and on the other hand, it entails certain inconveniences which are of some importance, such as associated movements of the shoulder and face. Another disadvantage is the atrophy sure to follow in the muscle innervated by the nerve chosen for anastomosis with the facial—no matter what technic of anastomosis is adopted. In some cases the atrophy of the trapezium or the hemiatrophy of the tongue does not cause serious functional disturbance, but in others the disturbance is not negligible. On the whole, Munch thinks that the disadvantages outweigh the inconveniences of the paralysis of the face, but if surgical treatment is contemplated the evidence is preponderantly in favor of facio-hypoglossal nerve anastomosis instead of the spino-facial graft which entails more serious disturbances.

36. **The Knife or "Tapotage" Sign of Cavity in Lungs.**—Erni applies this term, "tapotage," which means tapping or slapping, to describe the reaction which he has found almost pathognomonic of a tuberculous cavity in the lungs. He percusses the chest over the apex of the lungs, using for the purpose a flexible knife—a silver paper cutter—weighing about 100 gm. The blade is taken in the fingers and the chest is tapped with the handle, no force being applied, but merely the elasticity of the knife doing the percussion. The handle rebounds as it touches the chest wall. This light percussion produces no effect over normal parts, but when there is a cavity beneath, the percussion causes the subject to cough immediately and expectorate, all in less than a minute. If the same point is percussed several times an ecchymosis forms if there is a cavity beneath, but not otherwise. The cough and expectoration with which the cavity reacts to the percussion have therapeutic value, as they clear it out. The amount of sputa expelled is also an indication of the size of the cavity. Erni has been studying this sign for nine years and has always found it positive when there was a cavity located near the surface. He has also found this knife percussion an important aid in clearing out a cavity. The sputa become mucous and then dry up entirely as the cavity heals after evacuation; the walls become thicker and the tapotage sign can then no longer be elicited.

39. **Suspension of Testicle in Treatment of Varicocele.**—Carta suspends the testicle from the pillars of the external inguinal ring, using for the purpose a musculo-fibrous bag formed out of the cremaster and vaginalis. This allows excision of the varicosed veins and averts all dragging on the cord. The results have been perfect in 22 patients on whom he has operated by this technic during the last fifteen months. The technic is described in detail.

41. **Disturbances from Adhesions and Peritoneal Bands.**—Lejars does not include postoperative adhesions in this study, but merely those which have no appreciable source or have long survived the primary cause. Such adhesions and bands may entail trouble manifested solely by pains and vague functional disorders, or they may induce strangulation of the intestine, in all its forms, or a clinical picture reproducing in every particular the syndrome of this or that distinctly characteristic abdominal affection. He relates a number of examples of gastrointestinal disturbances following, after a longer or shorter interval, some apparently slight traumatism affecting the abdomen. The most prominent symptoms were vomiting, pains, tenacious colics and attacks of pseudo-occlusion, all of which subsided after a simple exploratory laparotomy and detachment or excision of the adhesions or constricting bands. The feature of these cases is the long interval that may elapse before any disturbances are noted. It is sometimes difficult to trace back to the primal traumatic cause of the disturbance. When no traumatism can be discovered in the antecedents the diagnosis is more difficult and the rebellious colics, vomiting, constipation or diarrhea are liable to be attributed to visceralgia or some other mysterious neurosis, when in reality the sole trouble is some peri-intestinal adhesion or restraining band. Lauenstein reported nine years ago 9 cases of this kind, and Lejars here analyzes 2 from his own experience. In one a woman of 30 had suffered from abdominal troubles for fifteen years, attributed to ingestion of a caustic. The pains grew worse and worse, mostly located in the left side, and were accompanied by nausea and vomiting. For a long time the patient had been fed exclusively by the rectum. Signs of pseudo-occlusion were observed at intervals. The patient had become addicted to morphin as the condition had only become aggravated under the various methods of treatment applied. An exploratory laparotomy disclosed a band of omentum constricting the transverse colon and another crossing the cecum. Both were excised and there has been no recurrence of the disturbances. The second patient was a woman of 40 who had had stomach trouble for thirteen years, distinguished by vomiting and pains exaggerated when standing erect, located to the left of the umbilicus. A cicatrix about the size of a quarter was found in the anterior wall of the stomach. This organ was adherent to the liver, and a broad band, about three inches long, fastened the cicatricial and adherent portion of the stomach to the wall of the abdomen. After excision of this band the patient was cured. These bands are probably the relics of some long extinct inflammatory process, the symptoms of which were unnoticed or have been forgotten—which explains the difficulty of a proper diagnosis. Perman has related an instructive case of a congenital band of this kind. The patient was a young man who had suffered from frequent colics since he was 8 years old. The pains developed especially after eating and after physical exertion. The condition grew constantly worse and a small umbilical hernia was incriminated. As long as the subject remained confined to his bed he had no disturbance, but as soon as he got up the pains recurred, severer than before. Each attack lasted from twelve to fourteen hours and terminated suddenly with passage of flatus. The abdomen was opened and a round cord as large as a penholder was found extending from the umbilicus to the lower portion of the sigmoid loop, where it spread out into a fan. A complete cure followed its excision. The symptoms caused by these adhesions or bands are gastric, intestinal or pelvic. They testify to the presence of some obstacle and to a painful distension above the obstacle. The lack of response to medication and the exacerbation in certain attitudes are aids in differentiating. The subjects are liable to become neurasthenic, but this phase is secondary. A settled pain, recurring always in the same zone, usually can be traced to some real, mechanical and curable cause. In the pelvic form the pains in the pelvis, sacral or iliac regions recur also in attacks, usually coinciding with the onset of menstruation. The organs are sound and the adhesions are due to some old, long past pelvi-peritonitis. The appendix may have co-operated in its production, but the main point is that all disturbances cease as soon as the adhesions are detached or excised. In one of Gersuny's patients McBurney's point was painful, but so was also a corresponding point in the left side. There was constipation and this aggravated the pains, which amounted at times to severe colics. Enteroptosis, chronic constipation and pelvic neuralgia had been diagnosed in turn, but a laparotomy disclosed merely adhesions. Intervention must be complete in such cases, with multiple and integral liberation. We know that about a third of all cases of strangulation of the intestine are due to constricting bands—too often attributed to mere constipation. Lejars witnessed the death of a young man from this cause. There had been no vomiting, very little distension, some flatus still passed and after a week of expectant treatment the exploratory laparotomy revealed a mass of adhesions fastening the sigmoid flexure and part of the small intestine to a large cicatrix on the abdominal wall. One peculiarity of this class of occlusion from the multiple adhesions is that they fail to cause trouble for such a long time, but when it does develop it is serious. In another case, for instance, a man of 66, large, fat, diabetic,

had never had any intestinal disturbances of any kind except for a vague history of a brief painful affection of the epigastrium twenty years before. Suddenly pain developed in the left hypochondrium and flank, and there was considerable meteorism above the umbilicus. The rectal evacuations still continued and there was no vomiting. Medication for several days did not improve the condition, the meteorism and constipation increased and the pulse showed trouble. An adherent and compact mass of intestines was found above the umbilicus, involving the transverse colon and small intestine. The patient died in coma in a few days. In conclusion Lejars reviews a large number of cases that have been published in which the constricting bands caused a syndrome simulating that of ulcer of the stomach, cholelithiasis, cancer, etc., calling especial attention to some cases of occlusion of the common bile duct by adhesions alone. As these conditions require operating in any case, differentiation of these relics of inflammation is not so important. The unexpected success of many of these purely liberating operations is most encouraging. They may require a slow, progressive, minute dissection and the adhesions must be extirpated as completely as possible to guard against recurrence of trouble. If integral liberation is impossible it is preferable to establish some roundabout route by anastomosis rather than to excise the wall of the stomach or intestine.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

43 (XXX, No. 13.) *Ultramikroskopische Untersuchung über die Ursache der sympathischen Ophthalmie. E. Raehlmann (Weimar).
44 *Action of Radium on the Eye. Greeff (Berlin).—Ueber Radiumstrahlen und ihre Wirkung auf das gesunde und blinde Auge.
45 *Ueber die Einwirkung von Radium-Strahlen auf das Carcinom der Mäuse. H. Apolant.
46 Unsere heutige Kenntnis der Radioactivität. R. H. Weber (Heidelberg).
47 *X Rays to Outline Heart. E. Grunmach (Berlin).—Ueber die Leistungen der X-Strahlen zur Bestimmung der Lage und Grenzen des Herzens.
48 Ein durch Behandlung mit Röntgen-Strahlen günstig beeinflusstes Spindel-Zellen-Sarkom. Mertens (Bremen).
49 *Zur Thiosinamin-Behandlung von Kontrakturen. P. Lengemann (Bremen).
50 Shall We Tell Patients of Impending Blindness? C. Hamburger.—Soll man Augenkranken die Erblindung verheim lichen?
51 *Ein auskochbares Thermometer (that can be boiled). Kantorowicz (Berlin).
52 Medicolegal Accident Insurance Decisions.—Die Rechtsprechung, etc.
53 The Russian Country District Doctor. A. Hippius (Moscow).—Moskauer Brief.
54 Zur Geschichte der Medizin (history of medicine). Fürer.

43. **Ultramicroscopic Study of Cause of Sympathetic Ophthalmia.**—Raehlmann has been applying the perfected ultramicroscope to the study of metastatic inflammation and gives illustrations of the findings in a case of phthisis bulbi requiring enucleation. The eyeball was examined under a microscope magnifying 2,400 diameters. The vitreous body was found swarming with motile bacteria apparently all of the same kind and representing what he believes to be the first instance of the direct inspection of a pure culture of living bacteria in the interior of the tissues. These bacteria are less than .25 of a micron in one diameter, but are longer in the other, too large to pass through the vessel walls like the particles of albumin, which is also prevented by their lively motions. It is possible, however, that the younger forms are still smaller and are thus able to pass through the vessel walls. This assumption would explain the cyclic character of certain inflammations. It would also explain sympathetic ophthalmia. The primary injury of the eye allows the proliferation of these bacteria in the vitreous body for which they seem to have a predilection. This process remains latent, that is, restricted to the vitreous body, until the birth of another generation. The very small younger forms pass readily into the blood and thus the first condition for the formation of metastases is produced. They circulate in the blood until they reach the vitreous body in the other eye. The vitreous humor as a watery fluid containing very little albumin is unique in the organism, providing a culture material unlike anything to be found elsewhere in the body. Hence, it follows that the bacteria circulating in the blood, if they are not eliminated by the natural emunctories beforehand, find conditions favorable for them in the vitreous humor and consequently locate there, and there alone. His research has further shown that the primary and sole location of the penetrating microbes is in the vitreous body. The inflammation spreads thence to the ciliary bodies and the iris and backward to the optic nerve, but this is merely the inflammatory reaction of the surrounding tissues, not due to the direct action of the bacteria, as none was found in these parts. Sympathetic ophthalmia is, therefore, a metastatic infection of the second eye induced by ultramicroscopic micro-organisms. The interval before the invasion of the other eye may vary with the virulence, number, etc., of the germs. He does not think that it can occur under six weeks, but is liable at any time after this, even after several years. The inflammatory reaction in the surrounding tissue is probably the effect of the products of bacterial metabolism, and may extend a long distance from the located microbes, but we have no reason for assuming that this inflammatory reaction alone is able to induce a sympathetic ophthalmia.

44. **Action of Radium Rays on the Eyes.**—Greeff discusses the fact that the rays of radium are visible to the naked eye in the dark. It is not a phosphorescence, as radium maintains this property indefinitely when kept exclusively in the dark without exposure to any light. It induces fluorescence in other objects and also emits the radium rays proper. He experimented with a mixture of both barium and radium chlorid, containing about .02 gm. of the latter. The paper in which it was wrapped became fluorescent under its influence, as also the fluorescent screen, but the light thus emitted is the ordinary light of fluorescence. Not so the light induced by the direct application of the radium to the eye. The radium mixture, enclosed in a leather box, to eliminate all phosphorescence, is approached within 10 cm. of the eye, which then perceives a diffuse sea green light, increasing in intensity as the radium is brought closer to the eye. It is impossible to locate the source of the light, as it is diffuse, and the intensity is the same whether the radium is held above or at the side of the eyes, or whether there are interposed objects, eyelids open or shut, the hands held over them, or even the interposition of a steel plate. The radium rays penetrate readily every substance known to date, with no attenuation, in which they differ from the Röntgen rays. Himsted and Nagel explain this action of radium on the eye by assuming that the radium induces fluorescence in certain tissues of the eye, and that this fluorescence is perceived as a light by the retina. Greeff examined the various parts of pigs' eyes to determine their power of fluorescence in these conditions and found that it was actually less than that of the surrounding skin, but that the radium did not bleach the visual purple in the retina in the dark, thus excluding the possibility of a direct light action on the retina. He consequently inclines to accept Himsted and Nagel's theory. No injurious effect on the eyes was perceptible from these experiments with radium radiation. The sensational announcements that with radium the blind can see are disproved by the above statements. Persons with relics of vision may be able to see the outline of dark objects placed on the fluorescent screen lighted up by the radium rays, but the same effect is obtainable with any screen and kerosene lamp. The same persons may be able to perceive, like the sound eye, the diffuse greenish luminosity induced by the radium rays proper, but this is far from actual seeing. Nothing has been advanced to date which encourages any hope that radium will enable the blind to see. London's announcement that with the radium rays the blind are able to see was mentioned in THE JOURNAL, xli, page 400.

45. **Action of Radium Rays on Carcinoma in Mice.**—Apolant gives the results of radium treatment of a number of mice which had been inoculated with scraps from extremely malignant carcinoma in man, according to the Borrel and Jensen technic. The communication proceeds from the Institute for Experimental Therapy at Frankfurt, in charge of Professor P. Ehrlich. The mice were the seventh or eighth generation of inoculated animals. Out of 19 tumors, the size of a pea to that of a large bean, 11 retrogressed completely under the influence of the radium rays and the remaining 8 were reduced

to mere traces of the former tumors. The growths began to retrogress before even the effect of the rays was shown in the falling out of the hair. On the other hand, the controls showed enormous increase of the tumors with 6 exceptions, in which the tumor remained stationary or was spontaneously absorbed, as occurred in 2 cases. The findings in both sets of animals are shown in parallel illustrations which present a graphic picture of the invariable success of the radium radiation, with details of its application. The radium was applied directly over the tumor, in light contact with it. The duration of treatment ranged from six to twenty-three days, during which time the radium was applied from two to fourteen times, each sitting from five to twenty minutes long. The few instances in which after the tumor had retrogressed to mere traces and stopped there, notwithstanding repeated and more vigorous radiation, the time and exposure limits above were much exceeded. The refractory behavior of the tumor at this point was probably due to transformation of a certain part of the growth into connective tissue.

47. **Determination of Position and Outline of Heart with X-Rays.**—Grunmach gives an illustration of an improved vacuum apparatus for *x*-ray work. With it he has succeeded in distinguishing three classes of "heart neurasthenics," as he calls them: 1, those with heart of normal size and position with slightly increased pulse rate and regular rhythm; 2, those with normal pulse rhythm and no dilatation, but with a displacement of the heart downward and sideward by cardioptosis, and 3, those with a slight enlargement of the heart, the pulse rhythm periodically transiently irregular, bigeminus or trigeminus, easily restored to normal by massage of the heart. Conditions remain normal afterward for days with rest and hydrotherapy, but under stress of excitement the pulse becomes irregular again. It can again be restored to normal by massage of the heart and may persist normal under repose and hydrotherapy. The slight enlargement of the heart, however, remains uninfluenced by all these measures. The practical results of his numerous experiments and findings center in the maxim that the old, tried heart remedies are not to be discarded in favor of the newer hydrotherapeutic measures in treatment of heart disease, but should be combined with them in appropriate cases. He urges *x*-ray examination of all cases of heart disease before applying hydrotherapy for fear that a latent or incipient aneurism of the aorta may escape our other modes of investigation. It is sure to be aggravated by the hydrotherapy. He found that the outline of the heart in healthy subjects never varied under the hydrotherapeutic measures nor under unusual exertion nor immoderate use of alcohol nor hot baths.

49. **Thiosinamin Treatment of Contracture.**—Lengemann reports additional cures from the injection of thiosinamin in cases of Dupuytren's contraction, and states that the fine results obtained have been permanent for more than a year since. He gives an illustration of still another case, the patient a man of 35, the contracture of ten years' standing. About forty to forty-five injections were made in the course of seven or eight weeks and normal flexibility was restored. Similarly fine results were obtained in the case of a traumatic contracture of the thumb, which regained its normal excursions after 25 injections. He always injects the fluid directly at the point where its action is desired, first injecting cocain, and follows with massage, passive movements and application of a dressing saturated with the thiosinamin.

51. **Thermometer That Can Be Boiled.**—Kantorowicz has improved on the ordinary clinical thermometer by having the upper end of the mercury tube spread out into a reservoir large enough to contain ten times the bulk of the mercury in the thermometer. The instrument can thus be placed in boiling water without fear of injury or even be sterilized with steam. For convenience he calls it the "pyrol thermometer."

Mitteilungen a. d. Genzgebieten, Jena.

Last indexed page 208.

55 (XII, No. 5.) Beiträge zur Physiologie des Esophagus und der Kardia. J. v. Mikulicz (Breslau).
56 *Experimentelle Untersuchungen über die Decapsulatio renum. B. Asakura (Berne).
57 *Experimentelle Untersuchungen über die zur Heilung chron. Nephritiden von Edebohls vorgeschlagene "Nierenentkapselung." H. Stursberg (Bonn).
58 *Ueber die Konfiguration der lumbalen Intervertebral Räume. H. Klein (Kiel).
59 *Spontane Appendizitis bei einigen Tier-Species. M. Mori (Berne).
60 *Artificial Infection of Gall Bladder After Resection of Common Duct. A. Brion and H. Kaiser (Strasburg). Künstliche Infektion der Gallenblase mit Pneumokokken nach Choledochus-Resektion.
61 *Influence of Operations on Course and Termination of Diabetes. O. Körner (Rostock).—Einfluss von Operationen auf den Verlauf und Ausgang von Diabetes mellitus.
62 *Invagination in Children. L. Kredel (Hanover).—Ueber die akute Darminvagination im Kindesalter.
63 Arthritis chronica ankylopoetica. P. Janssen (Bonn).
64 Anurie infolge doppelseitige Nieren Nekrose, verursacht durch Druck-Erhöhung in den Nieren. J. H. Saaijer (Leyden).

56 and 57. **Experimental Decapsulation of the Kidneys.**—Asakura has performed on rabbits and dogs Edebohls' method of decapsulation of the kidney. The operation was always well borne. A new envelope of connective tissue formed around the decapsulated kidney and new blood vessels formed in the new capsule and on the surface of the kidney. Animals with a suppurating kidney were also treated in the same way, but with less success, although even after injection of staphylococci into the vein of the ear the course of the infection was more favorable in the decapsulated animals than in the controls. Stursberg's experiments in the same line on rabbits and dogs, both healthy and under the influence of potassium chromate, were equally favorable in regard to the effects of decapsulation or nephrorrhaphy. The decapsulation was always followed by a new formation of vascular communication between the kidney tissue and the adjacent tissues, which apparently had an essential influence on the ample supply of blood to the kidney.

58. **Technic of Lumbar Puncture.**—Klein gives a number of diagrams of the lumbar intervertebral spaces as seen by radioscopy in the cadaver—not studied from the skeleton. The conclusion is evident that in the third and fourth lumbar intervertebral spaces the conditions are most favorable for lumbar puncture. The lumbosacral spaces are broader but much lower, sometimes so low as to afford very unfavorable conditions. The general skeleton is no criterion as to the size of the spaces between the vertebræ.

59. **Spontaneous Appendicitis in Animals.**—Mori found spontaneous appendicitis in two rabbits and one dog. In one rabbit there was proteus, coli and staphylococcus infection, in the others coli alone. He was able to induce an artificial appendicitis by injection of bacteria into the arteria appendicularis.

60. **Artificial Infection of Biliary Passages with Pneumococcus.**—After extensive resection in dogs of the common bile duct, freshly virulent pneumococci from sputa were injected into the gall bladder. The cocci vanished from the bile, but circulated in the blood, and in the stagnating contents of the gall bladder obligatory anaërobics were found in great numbers. These findings explain the absence of pneumococci in the gall bladder of pneumonia cadavers. None of the animals displayed any pulmonary lesions notwithstanding the pneumococcemia and not even after exposure to cold.

61. **Operations on Diabetics.**—Körner reviews 38 operations on diabetics undertaken on account of mastoiditis. In mild cases the sugar in the urine was increased but only temporarily. Only in the very severe cases is coma to be feared. An otherwise indicated operation need not therefore be omitted on account of an existing mild diabetes, but in the severe cases no operations should be undertaken unless under vital necessity. The details of the 38 cases are tabulated. He selected the cases of mastoiditis as affording conditions for better comparison. Only 7 of the total number were personally observed by him; 27 have already been published, and 4 were communicated by Kümmel.

62. **Invagination in Children.**—Kredel operated on 8 out of 12 children with acute invagination of the intestines. Only one recovered spontaneously, and all the others died. All but 2 were less than one year old. He urges prompt intervention and special efforts to avoid shock. In severe cases he advises to ligate the mesentery and make an artificial anus, or pos-

sibly restrict the intervention to suturing to the incision the first distended loop that comes to hand, opening it to allow evacuation of the contents. Rapid operating is the only hope; the second day is usually too late. The indications are as pressing as for incarcerated hernia. Enemata and insufflation of air are dangerous.

Münchener medicinische Wochenschrift, Munich.

65 (LI, No. 12.) *Intrathorakale doppelseitige Vagotomie. H. Starck (Heidelberg).
66 *Ueber die Abtödtung von Tuberkel-Bazillen in erhitzter Milch (heated milk). W. Rullmann (Munich).
67 Ueber eigentliche Delirien bei Phthisikern. G. Riebold.
68 *Zur Lehre vom kontinuirlichen Magensaftflusse (Reichmann'scher Krankheit). A. Bittorf.
69 Syphilitic Etiology of Fbrous Orchitis. F. Lesser.—Zur Aetiologie der Orchitis fibrosa.
70 *Zur Kenntnis der Sekretions-Neurosen des Darms (of intestines). G. Geissler (Constance).
71 Improved Stethoscope. W. Hildebrandt (Freiburg).—Eine neue Verbesserung des Stethoskopes.
72 Diverting the Superficial Electricity from the Röntgen Tube. G. W. Schiele (Naumburg).—Die Ableitung der Oberflächenelektrezität von der Röntgenröhre.
73 Apparat zur sterilen Injektion grösserer Flüssigkeitsmengen (of large amounts of fluid). C. v. Pirquet (Vienna).
74 Die Schlaftänzerin Mme. Magdeleine G. Im aerztlichen Verein zu München. F. Schlagintweit.

65. **Bilateral Vagotomy.**—Starck describes experiments on dogs in which the vagus was interrupted by stages, from the diaphragm to the neck. The technical difficulties were great. He did not find that the vagotomy had any influence on the esophagus at the time nor during the interval of more than nine months since.

66. **Destruction of Tubercle Bacilli in Milk.**—Rullmann found that the tubercle bacilli were still alive and virulent in milk heated to various temperatures for various periods of time, but never when the milk was heated to 68 C. (156 F.) for one hour, during which it was kept in constant motion. The taste of the milk and the chemical condition of the constituents of the milk are scarcely at all affected by this temperature, while the extremely virulent bacilli were all destroyed. He, therefore, commends this method of sterilization as perfectly effective while free from the objections of other technics.

68. **Continuous Gastrosuccorrhea.**—Bittorf distinguishes between the primary idiopathic form of chronic, continuous gastrosuccorrhea (Reichmann's disease), and the secondary form, accompanying dilatation of the stomach, ulcer, stenosis or catarrh. The idiopathic form is a neurosis, a disease *sui generis*, extremely rare. There is also an idiopathic variety which occurs only at intervals, as also a secondary form of this kind, secondary to hemicrania, tabes or brain affections. The idiopathic form may exist for years—seven years in one instance—and he describes a case in detail that had lasted for three and one-half years. Treatment includes sodium bicarbonate or magnesia, meat diet, frequent meals with tonics, hygiene and mild hydrotherapy. Treatment along these lines may not only relieve the symptoms, but realize a complete cure. There is evidently an excessive increase of the physiologic amount of gastric juice from morbid irritability of the secretory nerves. This irritation may be due to swallowed mucus from the throat, which is liable to induce the physiologic secretion in the empty stomach. The literature is reviewed.

70. **Secretory Neurosis of Intestines.**—Geissler's patient occasionally secreted large amounts of pure intestinal juice. He had long been subject to gastrointestinal disturbances and then acquired neurasthenia and exhibited symptoms of disturbance in the innervation of the intestines, manifested chiefly in the secretion of abnormal amounts of intestinal juice, causing diarrhea. The nervous character of this diarrhea was unmistakable. It only occurred after nervous strain or excitement and the feces showed exceptionally fine digestion. When the food passes rapidly through the digestive tract, as in ordinary diarrhea, it does not have time to undergo proper digestion.

Wiener klinische Wochenschrift, Vienna.

75 (XVII, No. 10.) Zur Kenntnis der Präzipitin-Bildung. F. Obermayer and E. P. Pick.
76 *Ueber "Pneumokokken-Peritonitis." A. Ghon.
77 *Zur Röntgen Therapie. G. Riehl.
78 *Ueber das sogen. "Typhus-Diagnostikum." S. v. E. Radzikowski.
79 (No. 11.) Die Pathogenese der Erkrankungen der Gallen-Wege und die Indikation zu deren chirurgischer Behandlung. J. Pruszynski (Warsaw).
80 Influence of Metabolism on Production of Antibodies. P. T. Muller.—Einfluss des Stoffwechsels auf die Produktion der Antikörper.
81 Lykopodium und Tuberkel-Bazillen im Sputum. S. Piatkowski (Lodz).
82 (No. 12.) *Ueber Verimpfungen von Carcinom in das Gehirn von Versuchstieren (experimental inoculation of cancer). Zur Kritik der Cancroin-Therapie Adamkiewicz. G. A. Wagner (von Eiselsberg's clinic, Vienna).
83 *Ueber intra-aurikulare Transplantation Thierscher Haut-Lappen nach der operativen Freilegung der Mittel-Ohr-Räume. A. Politzer (Vienna).
84 Ueber eine besondere insidiöse, durch das Fehlen der Krampfanfälle charakterisierte Form des Status epilepticus. A. Pick.
85 *Permanent Changes in Skin After Röntgen Radiation. L. Freund and M. Oppenheim (Matzenauer's clinic, Vienna).—Ueber bleibende Hautveränderungen nach Röntgenbestrahlung.
86 Zur Kasuistik der Mesenterial-Varietäten. A. Neudorfer (Gersuny's service, Vienna).

76. **Pneumococcus Peritonitis.**—Ghon describes the pathologic anatomy of 4 cases of acute fibrinous-suppurative peritonitis originating in the stomach. The pneumonia diplococcus was found numerous in the exudate, sometimes alone and sometimes associated with other bacteria. The subjects were 23 to 69 years old. In 3 cases there was a carcinoma and in the fourth an ulcer in the stomach. A fifth case showed a similar picture after perforation of a gastric ulcer. There was a lung affection in 2 of the cases only. In conclusion Ghon suggests that disinfection of the mouth and nose might prevent infection from this source in gastrointestinal operations, and might possibly reduce the mortality still further. A. Fraenkel long ago insisted on disinfection of the nose as an important factor in treatment of injuries of the skull.

77. **The Reverse Side of X-Ray Treatment.**—Riehl exhibited a patient at his local medical society, March 4, who had been treated for chronic eczema by exposure of the parts, once each, to a soft tube for half an hour—a total of ten sittings. The regions involved were the neck, breast and arms. The eczema temporarily disappeared, but in its place extensive gangrene developed. It healed, but ulcerations recurred at times. A year after the *x*-ray treatment the exposed patches assumed a different aspect, with atrophy and telangiectasia, resembling a "fire mole," while the skin contracted until flexion of the elbow is reduced by one-third. The chronic eczema has returned and involves previously intact regions. The patient has thus been permanently disfigured by the treatment. Riehl also knows of a number of women who had the *x*-rays applied as a depilatory for the chin and upper lip, and atrophy and telangiectasia have developed not only over the spot, but extending down even to the nipple in certain cases. No remedy has yet been discovered to cure this telangiectasia. He warns in conclusion that pathologically altered skin is liable to react to the *x*-rays in a different manner from sound skin. He thinks the hour has come for radiologists to collect and publish their successes and failures, like the surgeons. He also insists that radiologists should be trained dermatologists to begin with, and that cutaneous affections which we are able to cure by other means should not be submitted to *x*-ray treatment. Even in lupus the results have only been temporarily favorable, on the whole.

78. **Simple Blood Test for Typhoid.**—This communication from Gluzinski's clinic at Lemberg is another highly favorable report on Ficker's ready-made diagnosticum for the typhoid agglutination test. See editorial on page 962.

82. **Inoculation of Animals' Brains with Carcinoma.**—Wagner found that animals tolerated the injection of cancer substance as a foreign body, but succumbed to infection from the pathogenic germs accompanying the implanted scraps. The research was undertaken to disprove Adamkiewicz' assertion that the simultaneous injection of cancroin with cancer scraps prevented the latter from developing. Both cancroin and cancer scraps were incorporated like a foreign body, exerting no specific effect either alone or together, and the death of the animals was due to casual infectious germs or in their the animals was due to casual infectious germs, and in their

83. **Intra-Auricular Transplantation of Thiersch Flaps After Evacuation of Middle Ear.**—Politzer accelerates healing after

a Pause or Körner plastic operation by transplanting Thiersch flaps when the surface is granulating, about the sixth to the twentieth day. He irrigates the ear with sterile water for several hours beforehand, then fills it with 6 per cent. hydrogen peroxid, and then after five minutes, dries and tampons with cotton. Three or four hours later he proceeds to the transplantation. He takes the flap from the inside of the thigh or arm, about 1 or 2 square centimeters in size, and applies it on the perforated tip of a canula, of which he gives an illustration. There are a dozen or more openings in the tip of the canula, the other end of which swells to form a sphere just before it is attached to a rubber tube and bulb. The flap is placed on the tip of the canula and the latter is then introduced into the ear, and when the flap is over the proper location it is blown on it by pressure on the bulb. The ear is then packed with small cotton wads, avoiding pressure on the flaps. He describes the technic in detail, and states that it has been followed in 12 cases to date in his clinic. In 5 cases healing was perfect. In 5 others partially so, and the 2 others were failures at first, but one healed after a second transplantation.

85. **Permanent Alterations in the Skin After Roentgen Radiation.**—Freund and Oppenheim describe the disagreeable after-effects of *x*-ray treatment as observed in certain cases. They give illustrations of the histologic findings in one case of pronounced telangiectasia, and proclaim that these troubles are unmistakably the result of the disturbances in the circulation induced by the exposures. It is particularly liable to occur when the action of the rays is most intense in the upper layers of the skin. The existing capillaries of the upper network of capillary vessels become dilated, and pre-existing cutaneous affections in which there is already a tendency to this dilatation of the vessels afford a predisposition to telangiectasia later which must never be forgotten. Besides telangiectasia the *x*-rays are liable to induce atrophy of the skin and an alteration in the skin suggesting scleroderma. The findings in each form are described. In the telangiectasia they simulate those of commencing xeroderma pigmentosum. The torpid character of the Röntgen ray dermatides is due to the chronic stagnation in the vessels of the cutaneous region exposed. The ulcers developing on account of the necrobiosis of the tissues display the same torpid character and lack of tendency to heal which distinguish varicose ulcers in the leg. The conditions are practically the same in both these lesions. The effects observed indicate the necessity for using rays which affect the deeper tissues and do not exhaust their energy on the superficial layers.

Zeitschrift f. klinische Medizin.

Last indexed page 344.

87 (LI, Nos. 5-6.) Zur Frage der Glykolyse. A. Braunstein (Berlin).
88 *Untersuchungen über die Ruhr (dysentery). Jürgens (Berlin).
89 *Versuch zur Lösung des Glykogen-Problems. A. Wolff (Senator's clinic, Berlin).
90 Ueber Lipämie. E. Neisser and L. Derlin.
91 Ueber Quecksilber-Exantheme und Quecksilber Idiosynkrasie. E. Tomaszewski (Breslau). See editorial page 713.
92 Elimination in Diabetes Under Influence of Food. W. v. Moraczewski (Lemberg).—Ueber Ausscheidung von Oxalsäure, Indikan und Azeton bei Diabetes unter dem Einfluss der Nahrung.
93 Albuminoids in Urine. A. Calvo (Würzburg).—Ueber die Eiweisskörper des Urins bei Nierenkranken und Gesunden, mit bes. Berücksichtigung des durch Essigsäure fällbaren Eiweisskörpers.
94 Glykogen-Reaktion der Leukozyten. L. Hofbauer.
95 (LII, Nos. 1-2.) *Zur Lehre von der paroxysmalen Kälte-Hemoglobinurie. J. Donath.
96 *Zur Aetiologie und Pathogenese des Abdominal-Typhus. Jürgens (Berlin).
97 *Elimination of Dissolved Albuminoids in Feces as Sign of Functional Disturbance in Intestines. A. Albu and A. Calvo.—Ueber die Ausscheidung von gelösten Eiweisskörpern in den Fäces und ihre Verwerthung zur Erkennung von Functionsstörungen des Darms.
98 *Value of Olive Oil in Affections of Stomach and Duodenum. P. Cohnheim.—Weitere Mitteilungen über die Heilwirkung grosser Dosen von Olivenöl bei Erkrankungen des Magens und des Duodenums, Ulcus, Hyperchlorhydrie, spastischen und organischen Pylorus-Stenosen und deren Folgezuständen (Gastrektasie).
99 Cancer Research. G. L. Mamlock (Berlin).—Krebsforschung im Zeitalter der Aufklärung.

88. **Dysentery.**—Jürgens expatiates on the occurrence of latent symptomless cases of typhoid and dysentery as the connecting links between epidemics. He also comments on the unknown factors which induce epidemics. The bacilli alone are not sufficient. The locality seems to exert a marked influence. His experience with infected troops changing from garrison to garrison confirms this.

89. **The Glycogen Problem.**—Wolff comments on the varying solubility of the glycogen of normal leucocytes in health and disease and in different species. He further states that the idea that glycogen in the leucocytes indicates a degenerative process is incorrect. It was based on imperfect technic. On the other hand, later researches have shown that a lesser water-solubility of the glycogen in the leucocytes indicates a degenerative process.

95. **Paroxysmal Hemoglobinuria.**—The origin of the hemoglobinuria in the 3 cases described was not from the direct action of cold on the red corpuscles, nor from a purely mechanical injury to these corpuscles, but seemed to be due to a hemolytic action of the blood plasm. This hemolysis is probably the result of the action of the serum hemolysins.

96. **Typhoid Fever.**—Jürgens reiterates that the presence of the typhoid bacilli is far from being synonymous with the disease. In the efforts to carry out Koch's method of isolating typhoid patients, all the persons in the family were examined for typhoid bacilli, regardless of whether they were sick or well. This revealed a number of slight, atypical cases of typhoid and also disclosed the presence of the bacilli in certain absolutely healthy subjects. The bacilli in the milder cases were sometimes far more virulent than in the severe ones. The resistance of the individual is evidently the determining factor. The disease process is identical for all, but differs in its degree. Other points in Jürgen's communication were reviewed in an editorial on page 959.

97. **Albumin in Feces as Sign of Functional Disturbance.**—Dissolved albumin was always found in the feces of healthy nurslings, but only rarely in healthy older children, but always in both in case of an intestinal affection. In adults it was found only in a certain proportion of the cases of severe intestinal affections.

98. **Value of Olive Oil in Gastrointestinal Diseases.** Cohnheim's article was reviewed in an editorial on page 895. In addition to the points therein noted may be mentioned his recommendation of an emulsion of almond oil in case there is repugnance to the olive oil. It answers the same threefold purpose with the exception that it is less nourishing. He has found the olive oil effectual in relieving and curing gastrectasia not due to an organic obstacle, and even in organic and relative stenosis it proves a valuable lubricant. In such cases he orders a wineglassful—two tablespoonfuls—half an hour to an hour before meals, two or three times a day. It has no by-effects, and has frequently rendered a contemplated operation unnecessary. It prevents impending gastrectasia and wards off recurrences. He gives the particulars of 35 chronic cases treated with the oil. A further advantage is that it serves to differentiate purely nervous or hysteric gastric affections, as they are not benefited in the slightest by the oil, in marked contrast to other affections of the stomach and duodenum.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MANUAL OF CLINICAL MICROSCOPY AND CHEMISTRY, Prepared for the Use of Students and Practitioners of Medicine. By Dr. Hermann Lenhartz, Professor of Medicine and Director of Hospital at Hamburg, etc. Authorized Translation from the Fourth and Last German Edition, with Notes and Additions, by Henry T. Brooks, M.D., Professor of Histology and Pathology at the New York Post-Graduate Medical School and Hospital. With 148 Illustrations in the Text and 9 Colored Plates. Pp. xxxii-412. Cloth. Price, $3.00 net. Philadelphia: F. A. Davis Company.

SONGS OF ALL THE COLLEGES, INCLUDING MANY NEW SONGS. Compiled and Arranged by David D. Chamberlain (Harvard) and Karl P. Harrington (Wesleyan). Cloth. Pp. 330. Price, $1.50, postpaid. New York: Hinds & Noble.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. For the Year 1903. Vol. XIX. Cloth. Pp. 267. Philadelphia: Printed for the Association. 1903.